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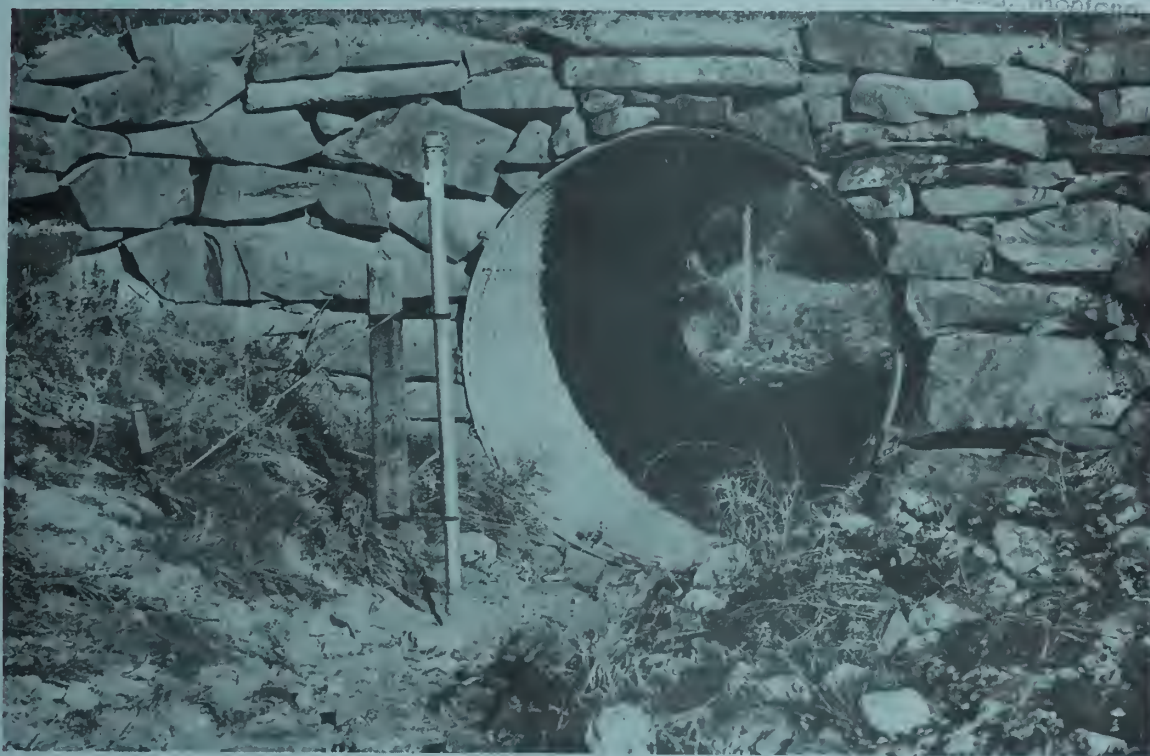
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# Small Area Peak-Flow Highway Program in Montana

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SMALL AREA PEAK-FLOW HIGHWAY PROGRAM

Progress Report  
for the  
Water Year Ending September 30, 1961

Prepared for the Montana Highway Commission  
in cooperation with the  
U. S. Department of Commerce, Bureau of Public Roads

By  
Fred C. Boner

U. S. GEOLOGICAL SURVEY  
408 FEDERAL BUILDING  
HELENA, MONTANA  
MARCH 1962



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## SMALL-AREA PEAK-FLOW HIGHWAY PROGRAM

### Progress Report to the Montana State Highway Commission for the Water Year Ending September 30, 1961

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#### INTRODUCTION

*BPR* The SMALL-AREA PEAK-FLOW HIGHWAY PROGRAM in Montana has been in operation since July 1, 1955. Initially the program consisted of 45 gaging stations east of the Continental Divide, but additional stations were established in 1959 to provide coverage for the entire state. This investigation of floods from small drainage areas is financed under the provisions of a cooperative agreement between the Montana State Highway Commission and the U. S. Geological Survey which provides for the full reimbursement of appropriate costs by the Commission through its Planning Survey.

The investigation is under the general supervision of Frank Stermitz, District Engineer, and is directed by Fred C. Boner, Hydraulic Engineer.

This progress report consists primarily of a tabulation of the annual peak stage and discharge. It is the seventh of an annual series prepared to inform the cooperators and other interested parties of the status of the program. The report summarizes the activities and progress made during the 1961 water year which began October 1, 1960 and ended September 30, 1961.

Information on outstanding floods and other flow data were furnished on request to Mr. L. W. Hargrove, Hydrologist, Montana State Highway Commission.

## PURPOSE OF THE PROGRAM

The primary objective of the program provides for the collection of the necessary peak-flow data to make a flood magnitude and frequency study. This study will utilize the data collected from the small areas, as well as the data collected by the regular established cooperative program of the Geological Survey. The final state-wide flood-frequency report will be prepared following the 1964 water year, providing sufficient data have been collected to give reliable results. It should be understood that a prolonged period in which low-magnitude peak flows occur would require an extension of the program until sufficient high-magnitude peak flows could be observed. The final report will enable the user to determine the magnitude and frequency of floods from various sizes of drainage basins and will be useful in the design of adequate highway drainage structures.

## DETAILS OF PROGRAM OPERATION

### Station Network

The gaging station network being operated primarily for this program consisted of 134 crest-stage gages and 9 continuous recording gages at the start of the 1961 water year. During the year, 6 crest-stage gages were discontinued and 10 were established at new locations. This brought the total number of stations in the network to 147 by the end of the water year, of which 138 were crest-stage gages and 9 were continuous recording gages.

The crest-stage gages are located on streams having generally small drainage areas. Of the 114 stations in the Missouri River basin, 64 stations have drainage areas of less than 10 square miles, 34 have drainage areas ranging from 10 to 50 square miles, and 16 have more than 50 square miles. West of the Continental Divide, in the Columbia River basin, there are 33 gaging stations of which 26 are located on streams having drainage areas of less than 10 square miles, 6 have drainage areas between 10 and 50 square miles, and 1 station has a drainage area of more than 50 square miles. Figure 1 shows the approximate location of all special network stations, and the 34 areas in which they are grouped.

Peak-flow data are also being collected at 14 other crest-stage gages in eastern Montana under a cooperative program between the Geological Survey and the Montana State Engineer. There are 8 stations grouped in 3 areas while the remaining 6 are located at selected isolated sites. The approximate location of each station and area is shown in figure 1.

To supplement the data being collected by the highway program, data collected by the regular established stream gaging program of the Geological Survey will be available for use. Records for these stations are published in the annual series of publications entitled "Surface Water Supply of the United States".

Weather reports containing information on the amount and duration of rainstorms were made by three unpaid observers. These reports have been extremely useful in determining the date of a peak flow on a nearby stream. They supplement the regular weather reports by the U.S. Weather Bureau.

### Program Activities, 1961 Water Year

The eastern part of Montana was very dry during the 1961 water year until September. Many of the small streams were dry throughout the entire year and others had only low-magnitude peak flows. A few streams had high peaks as a result of fairly heavy rains in mid-September.

The mountain sections of western Montana were also dry. Snow-melt peaks were among the lowest of record at continuous-record stations that have been in operation for less than fifteen years. Stations that have more than fifteen years of record had peaks that generally were much below median. The peaks observed at crest-stage gages were considered to have been of low magnitude, similar to stations of longer periods of record.

Collection of peak-flow data continued to be the primary phase of operation during the water year. The gaging stations were visited routinely to obtain high-water marks or discharge measurements and to insure that the gages were operating properly. During the year, 1,150 gage inspections, 137 current-meter measurements, and 63 estimates of flow were made. Whenever an unmeasured peak flow of appreciable magnitude had occurred at a station, a special trip was made to collect the additional field data required to compute the peak discharge by indirect methods. Transit-stadia surveys for indirect measurements of flow were made at 5 sites, 4 using the slope-area method and 1 using the contracted-opening method.

→ Many crest-stage gages are located at highway culverts because the culvert is a convenient tool for use in measuring peak discharges. Given the geometry of a culvert, the shape of the natural channel in the vicinity of the culvert, and the water-surface profile upstream and downstream from the culvert at the time of a peak flow, the peak discharge can be computed.

The water-surface profile is obtained from high-water marks left on the crest-stage gages, supplemented wherever possible, by nearby high-water marks. There were 33 computations of peak flow through culverts made during the water year.

Each year the gages are checked by levels to semi-permanent reference marks to insure that all flood peaks can be adjusted to the same datum in the event a gage is disturbed or destroyed. Culvert geometry was measured, where necessary, during the water year at the same time that the levels were obtained.

Determination of drainage area at each station was completed during the year. Areas were delineated on aerial photographs wherever topographic map coverage was inadequate.

#### Program Plans, 1962 Water Year

Collection of peak-flow data will be continued during the 1962 water year. Field data will generally be obtained during the routine visits to the gaging stations. Special trips will be made when necessary to obtain additional field data in the event a peak stage of appreciable magnitude occurs.

In addition, information on peak flows resulting from thunderstorms will be collected at points other than gaging stations. These measurements will be made at points where significant damage is reported or the peak discharge may be hydrologically significant. The resources of the Geological Survey do not permit coverage of all reported events, and it is acknowledged that some may escape attention.



Data collected at the original group of 45 gaging stations in eastern Montana having 6 or more years of peak-flow data will be analyzed for flood-frequency relationships within the next several months. A report on the findings will be prepared <sup>when</sup> and submitted to the Highway Commission.

More information on the duration and amount of rainfall during thunderstorms is needed to supplement runoff data collected within the drainage basins on which peak-flow stations are being operated. A sizeable expansion of rain-gage observer program is planned for the spring of 1962.

#### PRESENTATION OF DATA

Data pertinent to each gaging station is presented on pages 7 to 88 of this report. The station manuscript includes the permanent station number and name, location, drainage area, period of record, and type of gage. A list of the annual maximum gage height and discharge (when available) for each water year of record follows the manuscript.

The annual peak discharges shown are preliminary figures and are subject to revision. If the peak discharge is listed as "unknown", it means a reliable figure of peak discharge will never be available. A listing of "not determined" means that the peak discharge will be determined at a later date after more data have been obtained.

Station records for crest-stage gages operated in cooperation with the Montana State Engineer are also shown in this section of the report (see pages 89 to 95).

## 6-114 Long Creek near Lakeview, Mont.

Location--Lat 44°43', long 112°04', in SE $\frac{1}{4}$  sec.10, T.13 S., R.4 W., at bridge on county road, 15 miles northwest of Lakeview.

Drainage area--33.9 sq mi.

Records available--May 1959 to

Gage--Crest-stage gage installed May 12, 1959.

Annual maximum data--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1960	Apr. 6, 1960	3.17	Not determined
1961	Apr. 17, 1961	1.00	Not determined

## 6-119 Red Rock River tributary near Monida, Mont.

Location--Lat 44°35', long 112°15', in SE $\frac{1}{4}$  sec.30, T.14 S., R.5 W., at county road, 3 miles east of Monida.

Drainage area--1.00 sq mi.

Records available--May 1959 to

Gage--Crest-stage gage installed May 12, 1959.

Annual maximum data--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1960	Apr. 6, 1960	--	a 3
1961	Apr. 17, 1961	b 1.08	a 2

a About.

b Backwater from ice.

## 6-132 Traux Creek near Lima, Mont.

Location.--Lat  $44^{\circ}37'$ , long  $112^{\circ}34'$ , in NW $\frac{1}{4}$  sec.15, T.14 S., R.8 W., at culvert 300 ft upstream from Interstate Highway 15 and U. S. Highway 91, 2 miles southeast of Lima.

Drainage area.--2.77 sq mi.

Records available.--May 1959 to

Gage.--Crest-stage gage installed May 12, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1960	March 1960	0.24	Not determined
1961	Mar. 14, 1961	.35	Not determined

## 6-134 Muddy Creek near Dell, Mont.

Location.--Lat  $44^{\circ}38'$ , long  $112^{\circ}48'$ , in SW $\frac{1}{4}$  sec.3, T.14 S., R.10 W.,  $\frac{1}{2}$  mile upstream from mouth, 8 miles southwest of Dell.

Drainage area.--62.7 sq mi.

Records available.--May 1959 to

Gage.--Crest-stage gage installed May 12, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1960	July 6, 1960	2.70	Not determined
1961	Apr. 3, 1961	2.47	Not determined

6-135 Sheep Creek below Muddy Creek, near Dell, Mont.

Location.--Lat  $44^{\circ}40'$ , long  $112^{\circ}46'$ , in SE $\frac{1}{4}$  sec. 35, T.13 S., R.10 W.,  
6 $\frac{1}{2}$  miles southwest of Dell.

Drainage area.--280 sq mi. At site in 1936, 293 sq mi.

Records available.--April to September 1936 and May 1946 to September 1953 (continuous record), June 1959 to

Gage.--Water-stage recorder re-installed June 24, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1936	--	--	Unknown
1946	May 28, 1946	5.54	379
1947	June 9, 1947	5.66	349
1948	Aug. 1, 1948	5.49	369
1949	Apr. 12, 1949	6.02	477
1950	Apr. 1, 1950	5.68	406
1951	Aug. 4, 1951	4.82	234
1952	Apr. 18, 1952	7.72	909
1953	June 2, 1953	5.23	313
1960	Mar. 26, 1960	4.44	168
1961	Apr. 4, 1961	3.98	84

## 6-139 Sage Creek tributary near Dell, Mont.

Location.—Lat  $44^{\circ}44'$ , long  $112^{\circ}37'$  in SE $\frac{1}{4}$  sec.31, T.12 S., R.8 W., at bridge on county road, 4 miles east of Dell.

Drainage area.—0.43 sq mi.

Records available.—May 1959 to

Gage.—Crest-stage gage installed May 12, 1959.

Annual maximum data.—

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1960	March 1960	0.13	Not determined
1961	---	---	(c)

## 6-169 Beaverhead River tributary near Dillon, Mont.

Location.—Lat  $45^{\circ}13'$ , long  $112^{\circ}40'$ , in SE $\frac{1}{4}$  sec.15, T.7 S., R.9 W., 250 ft upstream from settling basin, 2 miles west of Dillon.

Drainage area.—0.62 sq mi.

Records available.—May 1959 to

Gage.—Crest-stage gage installed May 11, 1959.

Annual maximum data.—

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1960	Mar. 18, 1960	0.32	Not determined
1961	---	---	(c)



## 6-182 Beaverhead River tributary No. 2 near Dillon, Mont.

Location.--Lat  $45^{\circ}19'$ , long  $112^{\circ}32'$ , in NW $\frac{1}{4}$  sec.13, T.7 S., R.8 W., at culvert on State Highway 41, 9 miles northeast of Dillon.

Drainage area.--0.40 sq mi.

Records available.--May 1959 to

Gage.--Crest-stage gage installed May 7, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1958	d June 24, 1958	5.04	170
1959	--	--	(c)
1960	Mar. 19, 1960	.41	3
1961	June 12, 1961	.36	2.5

## 6-198 Idaho near Alder, Mont.

Location.--Lat  $45^{\circ}12'$ , long  $112^{\circ}08'$ , in center sec.30, T.6 S., R.4 W., at bridge on county road, 9 miles south of Alder.

Drainage area.--10.8 sq mi.

Records available.--May 1959 to

Gage.--Crest-stage gage installed May 7, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1960	Mar. 27, 1960	b 2.18	Not determined
1961	Apr. 4, 1961	.87	Not determined

b Backwater from ice.

c No evidence of flow during year.

d Prior to installation of gage; peak discharge computed from high-water marks along highway embankment at culvert.

## 6-253 Moose Creek near Divide, Mont.

Location.--Lat  $45^{\circ}43'$ , long  $112^{\circ}42'$ , in NW $\frac{1}{4}$  sec.34, T.1 S., R.9 W., at culverts on Interstate Highway 15 and U. S. Highway 91,  $3\frac{1}{2}$  miles south-east of Divide.

Drainage area.--41.4 sq mi.

Records available.--May 1959 to

Gage.--Crest-stage gage installed May 11, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1960	May 7, 1960	1.62	90
1961	Apr. 4, 1961	.79	39

## 6-277 Fish Creek near Silverstar, Mont.

Location.--Lat  $45^{\circ}46'$ , long  $112^{\circ}15'$ , in NW $\frac{1}{4}$  sec.8, T.1 S., R.5 W., at bridge on county road, 6 miles north of Silverstar.

Drainage area.--39.5 sq mi.

Records available.--May 1959 to

Gage.--Crest-stage gage installed May 7, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1959	June 6, 1959	1.15	166
1960	May 13, 1960	.91	105
1961	Apr. 4, 1961	1.13	160

## 6-302 Jefferson River tributary near Whitehall, Mont.

Location.--Lat 45°53', long 112°00', in SE¼ sec.32, T.2 N., R.3 W., at culvert on Interstate Highway 90 and U. S. Highway 10, 5 miles east of Whitehall.

Drainage area.--1.85 sq mi.

Records available.--May 1959 to

Gage.--Crest-stage gage installed May 6, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1960	--	--	(c)
1961	--	--	(c)

## 6-303 Jefferson River tributary No. 2 near Whitehall, Mont.

Location.--Lat 45°53', long 111°59', in SE¼ sec.33, T.2 N., R.3 W., at culvert on county road, 6 miles east of Whitehall.

Drainage area.--4.50 sq mi.

Records available.--October 1957 to

Gage.--Crest-stage gage installed May 7, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1958	d June 24, 1958	4.45	169
1959	d Apr. 6, 1959	2.37	71
1960	--	--	(c)
1961	Sept. 11, 1961	1.32	34

c No evidence of flow during year.

d Prior to installation of gage.

## 6-347 Sand Creek at Sappington, Mont.

Location.--Lat  $45^{\circ}47'$ , long  $111^{\circ}45'$ , in SW $\frac{1}{4}$  Sec.32, T.1 N., R.1 W., three quarters of a mile southeast of Sappington.

Drainage area.--9.41 sq mi.

Records available.--May 1959 to

Gage.--Crest-stage gage installed May 6, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1960	Apr. 9, 1960	1.36	Not determined
1961	Aug. 14, 1961	(OG) 2.0	124

## 6-348 Jefferson River tributary No. 3 near Sappington, Mont.

Location.--Lat  $45^{\circ}50'$ , long  $111^{\circ}42'$ , in SW $\frac{1}{4}$  sec.14, T.1 N., R.1 W., at culvert on Interstate Highway 90 and U. S. Highway 10, 4 miles northeast of Sappington.

Drainage area.--1.14 sq mi.

Records available.--May 1959 to

Gage.--Crest-stage gage installed May 6, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1960	Feb. 1, 1960	0.10	0.1
1961	Aug. 14, 1961	.95	12.

6-366 Jefferson River tributary No. 4 near Three Forks, Mont.

Location.--Lat  $45^{\circ}54'$ , long  $111^{\circ}37'$ , in SW $\frac{1}{4}$  sec.28, T.2 N., R.1 E., at culverts on Interstate Highway 90 and U. S. Highway 10, 3 miles west of Three Forks.

Drainage area.--0.53 sq mi.

Records available.--May 1959 to

Gage.--Crest-stage gage installed May 6, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1960	--	--	(c)
1961	--	--	(c)

6-367 Jefferson River tributary No. 5 near Three Forks, Mont.

Location.--Lat  $45^{\circ}55'$ , long  $111^{\circ}36'$ , in NE $\frac{1}{4}$  sec.21, T.2 N., R.1 E., at culvert on State Highway 287, 3 miles west of Three Forks.

Drainage area.--3.69 sq mi.

Records available.--May 1959 to

Gage.--Crest-stage gage installed May 6, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1960	--	--	(c)
1961	--	--	(c)

c No evidence of flow during year.



## 6-432 Squaw Creek near Gallatin Gateway, Mont.

Location.--Lat  $45^{\circ}26'$ , long  $111^{\circ}13'$ , in SW $\frac{1}{4}$  sec.34, T.4 S., R.4 E., at private bridge, 10 miles south of Gallatin Gateway.

Drainage area.--40.4 sq mi.

Records available.--May 1959 to

Gage.--Crest-stage gage installed May 5, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1959	June 7, 1959	2.20	a 420
1960	May 12, 1960	1.66	147
1961	May 26, 1961	1.47	200

## 6-433 Logger Creek near Gallatin Gateway, Mont.

Location.--Lat  $45^{\circ}27'$ , long  $111^{\circ}14'$ , in SW $\frac{1}{4}$  sec.28, T.4 S, R.4 E., at culvert on U. S. Highway 191, 10 miles south of Gallatin Gateway.

Drainage area.--2.48 sq mi.

Records available.--May 1959 to

Gage.--Crest-stage gage installed May 5, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1959	June 7, 1959	1.03	20
1960	May 12, 1960	.69	9
1961	May 26, 1961	.34	6

## 6-465 East Gallatin River near Bozeman, Mont.

Location.--Lat  $45^{\circ}38'35''$ , long  $110^{\circ}55'35''$ , in SE $\frac{1}{4}$  sec. 24, T.2 S., R.6 E., 6 miles east of Bozeman.

Drainage area.--49.0 sq mi

Records available.--November 1951 to September 1953 (continuous record), 1956-57 (miscellaneous measurements only), May 1959 to

Gage.--Water-stage recorder re-installed May 5, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1952	Apr. 19, 1952	4.08	421
1953	June 3, 1953	4.65	608
1959	Apr. 1, 1959	3.9	337
1960	May 8, 1960	3.64	248
1961	May 2, 1961	3.03	90

## 6-467 Pitcher Creek near Bozeman, Mont.

Location.--Lat  $45^{\circ}39''$ , long  $110^{\circ}56'$ , in NW $\frac{1}{4}$  sec. 24, T.2 S., R.6 E., at culvert on county road, 5 miles east of Bozeman.

Drainage area.--2.33 sq mi.

Records available.--1951-53, miscellaneous measurements of base flow only. May 1959 to

Gage.--Crest-stage gage installed May 6, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1960	May 13, 1960	1.25	14
1961	May 27, 1961	.03	1

## 6-470 Bear Canyon Creek near Bozeman, Mont.

Location.--Lat  $45^{\circ}37'35''$ , long  $110^{\circ}55'45''$ , in NW $\frac{1}{4}$  sec.36, T.2 S., R.6 E.,  
6 miles southeast of Bozeman.

Drainage area.--17.0 sq mi.

Records available.--November 1951 to September 1953 (continuous record),  
May 1959 to

Gage.--Water-stage recorder re-installed May 5, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1952	May 26, 1952	2.84	149
1953	June 3, 1953	3.40	450
1959	May 1, 1959	2.2	a 150
1960	May 12, 1960	2.62	202
1961	May 22, 1961	1.77	46

## 6-562 Castle Creek tributary near Ringling, Mont.

Location.--Lat  $46^{\circ}22'$ , long  $111^{\circ}06'$ , in NE $\frac{1}{4}$  sec.21, T.7 N., R.5 E., at  
culverts on U.S. Highway 12, 15 miles northwest of Ringling.

Drainage area.--2.59 sq mi.

Records available.--May 1959 to

Gage.--Crest-stage gage installed May 22, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1960	e May 4, 1960	e 1.45	23
1961	Apr. 25, 1961	.91	12

a About

e Revised

## 6-587 Mitchell Gulch near East Helena, Mont.

Location.--Lat  $46^{\circ}34'$ , long  $111^{\circ}49'$ , in NW $\frac{1}{4}$  sec.2, T.9 N., R.2 W., at culvert in U. S. Highway 12, 4.7 miles east of East Helena.

Drainage area.--8.09 sq mi.

Records available.--May 1959 to

Gage.--Crest-stage gage installed May 14, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1959	d March 1959	0.96	Not determined
1960	Mar. 19, 1960	.32	Not determined
1961	June 29, 1961	.27	2

## 6-617 Jackson Creek near East Helena, Mont.

Location.--Lat  $46^{\circ}28'20''$ , long  $111^{\circ}51'10''$ , in SE $\frac{1}{4}$  sec.4, T.8 N., R.2 W., 300 ft upstream from mouth,  $8\frac{1}{2}$  miles southeast of East Helena.

Drainage area.--3.44 sq mi.

Records available.--June 1960 to

Gage.--Staff gage installed June 22, 1960 and crest-stage gage installed July 8, 1960.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1960	--	--	Unknown
1961	May 1, 1961	1.48	4

d Prior to installation of gage.

## 6-563 Cabin Creek near Townsend, Mont.

Location.--Lat  $46^{\circ}20'$ , long  $111^{\circ}13'$ , in NW $\frac{1}{4}$  sec.27, T.7 N., R.4 E.,  
100 ft upstream from mouth,  $14\frac{1}{2}$  miles east of Townsend.

Drainage area.--12.6 sq mi.

Records available.--May 1959 to

Gage.--Crest-stage gage installed May 22, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1960	June 4, 1960	2.00	Not determined
1961	June 22, 1961	.14	2

## 6-566 Deep Creek below North Fork Deep Creek, near Townsend, Mont.

Location.--Lat  $46^{\circ}20'$ , long  $111^{\circ}17'$ , in SE $\frac{1}{4}$  sec.25, T.7 N., R.3 E., at  
bridge on county road, 11 miles east of Townsend.

Drainage area.--87.7 sq mi.

Records available.--May 1959 to

Gage.--Crest-stage gage installed May 18, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1959	June 7, 1959	2.15	290
1960	June 4, 1960	2.00	254
1961	May 24, 1961	1.60	83



## 6-618 Crystal Creek near East Helena, Mont.

Location.--Lat  $46^{\circ}29'00''$ , long  $111^{\circ}51'40''$ , in NW $\frac{1}{4}$  sec.4, T.8 N., R.2 W., a quarter of a mile upstream from mouth, 8 miles southeast of East Helena.

Drainage area.--3.77 sq mi.

Records available.--June 1960 to

Gage.--Staff gage installed June 22, 1960 and crest-stage gage installed July 8, 1960.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1960	--	--	Unknown
1961	May 1, 1961	1.59	a 5

## 6-619 McClellan Creek at City diversion dam, near East Helena, Mont.

Location.--Lat  $46^{\circ}32'00''$ , long  $111^{\circ}52'40''$ , in SE $\frac{1}{4}$  sec.17, T.9 N., R.2 W., on wingwall of diversion dam,  $4\frac{1}{2}$  miles southeast of East Helena.

Drainage area.--33.2 sq mi.

Records available.--June 1960 to

Gage.--Staff gage installed June 23, 1960 and crest-stage gage installed July 7, 1960.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1960	d May-June 1960	3.01	Not determined
1961	May 27, 1961	.65	48

a About

d Prior to installation of gage.

## 6-627 Little Porcupine Creek tributary near Helena, Mont.

Location--Lat  $46^{\circ}35'$ , long  $112^{\circ}16'$ , in SW $\frac{1}{4}$  sec.29, T.10 N., R.5 W., at culvert on U. S. Highway 12, 11 miles west of Helena.

Drainage area--0.48 sq mi.

Records available--May 1959 to

Gage--Crest-stage gage installed May 14, 1959.

Annual maximum data--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1959	June 6, 1959	0.45	1.5
1960	May 12, 1960	.39	1.2
1961	May 22, 1961	.17	.4

## 6-712 Lyons Creek near Wolf Creek, Mont.

Location--Lat  $46^{\circ}56'$ , long  $112^{\circ}08'$ , in NE $\frac{1}{4}$  sec.29, T.14 N., R.4 W., 135 ft upstream from mouth,  $5\frac{1}{2}$  miles southwest of Wolf Creek.

Drainage area--29.4 sq mi.

Records available--May 1959 to

Gage--Crest-stage gage installed May 15, 1959.

Annual maximum data--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1959	June 6, 1959	0.81	63
1960	June 2, 1960	.81	63
1961	May 23, 1961	.12	13

## 6-714 Dog Creek near Craig, Mont.

Location.--Lat  $47^{\circ}05'$ , long  $112^{\circ}00'$ , in NW $\frac{1}{4}$  sec.4, T.15 N., R.3 W., at bridge on county road, 2 miles west of Craig.

Drainage area.--15.9 sq mi.

Records available.--May 1959 to

Gage.--Crest-stage gage installed May 15, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1960	Mar. 19, 1960	0.41	a 30
1961	May 23, 1961	4.40	1,160

## 6-716 Wegner Creek at Craig, Mont.

Location.--Lat  $47^{\circ}05'$ , long  $111^{\circ}57'$ , in NW $\frac{1}{4}$  sec.11, T.15 N., R.3 W., at bridge on Interstate Highway 15 and U.S. Highway 91, 0.9 miles east of Craig.

Drainage area.--35.0 sq mi.

Records available.--May 1959 to

Gage.--Crest-stage gage installed May 15, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1960	June 2, 1960	0.59	46
1961	July 6, 1961	2.54	408

## 6-756 Five Mile Creek near White Sulphur Springs, Mont.

Location.--Lat  $46^{\circ}37'$ , long  $110^{\circ}45'$ , in SW $\frac{1}{4}$  sec.20, T.10 N., R.8 E., at culvert on U.S. Highway 12, 8 miles northeast of White Sulphur Springs.

Drainage area.--6.00 sq mi.

Records available.--May 1959 to

Gage.--Crest-stage gage installed May 22, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1960	May 1, 1960	1.25	Not determined
1961	--	--	(c)

## 6-760 Newland Creek near White Sulphur Springs, Mont.

Location.--Lat  $46^{\circ}44'$ , long  $110^{\circ}50'$ , near line between secs.9 and 10, T.11 N., R.7 E., 15 miles upstream from mouth, 13 miles north of White Sulphur Springs.

Drainage area.--6.74 sq mi.

Records available.--September 1945 to November 1953 (continuous record), June 1959 to

Gage.--Water-stage recorder re-installed June 19, 1959

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1946	June 11, 17, 1946	0.72	f 4.9
1947	May 6, 1947	2.18	18
1948	May 8, 1948	2.64	29
1949	June 1, 1949	1.48	6.2
1950	May 28, 1950	1.64	9.5
1951	May 13, 1951	1.62	11
1952	May 4, 1952	1.66	14
1953	June 4, 1953	3.50	56
1960	May 19, 1960	2.39	5.1
1961	May 31, 1961	2.18	3.2

c No evidence of flow during year.

f Maximum observed.

## 6-767 Sheep Creek near Neihart, Mont.

Location.--Lat 46°48', long 110°42', in SE¼ sec.15, T.12 N., R.8 E., at culvert in U.S. Highway 89, 10 miles south of Neihart.

Drainage area.--5.30 sq mi.

Records available.--May 1959 to

Gage.--Crest-stage gage installed May 22, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1960	May 12, 1960	1.12	38
1961	May 27, 1961	1.11	37

## 6-768 Nugget Creek near Neihart, Mont.

Location.--Lat 46°47', long 110°42', in NE¼ sec.27, T.12 N., R.8 E., at culvert in U.S. Highway 89, 11 miles south of Neihart.

Drainage area.--1.48 sq mi.

Records available.--May 1959 to

Gage.--Crest-stage gage installed May 22, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1959	June 7, 1959	1.05	14
1960	May 12, 1960	.38	5
1961	May 27, 1961	.30	4



## 6-777 Smith River tributary near Eden, Mont.

Location.--Lat  $47^{\circ}18'$ , long  $111^{\circ}26'$ , in NW $\frac{1}{4}$  sec.24, T.18 N., R.2 E., at bridge on county road,  $7\frac{1}{2}$  miles northwest of Eden.

Drainage area.--1.63 sq mi.

Records available.--May 1959 to

Gage.--Crest-stage gage installed May 25, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1960	Mar. 17, 1960	0.32	Not determined
1961	--	--	(c)

## 6-778 Goodman Coulee near Eden, Mont.

Location.--Lat  $47^{\circ}20'$ , long  $111^{\circ}25'$ , in center sec.12, T.18 N., R.2 E., at culvert on county road, 8 miles northwest of Eden.

Drainage area.--21.8 sq mi.

Records available.--May 1959 to

Gage.--Crest-stage gage installed May 25, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1959	d Apr. 22, 1959	1.57	49
1960	May 1, 1960	1.92	41
1961	--	--	(c)

c No evidence of flow during year.

d Prior to installation of gage; peak discharge computed from high-water marks along highway embankment at culvert.

## 6-796 Beaver Creek at Gibson Dam, near Augusta, Mont.

Location.--Lat  $47^{\circ}36'$ , long  $112^{\circ}45'$ , in SE $\frac{1}{4}$  sec.4, T.21 N., R.9 W., at bridge on county road, 19 miles northwest of Augusta.

Drainage area.--20.3 sq mi.

Records available.--May 1959 to

Gage.--Crest-stage gage installed May 28, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1959	June 6, 1959	0.78	Not determined
1960	May 12, 1960	2.28	Not determined
1961	May 7, 1961	.37	Not determined

## 6-893 Sun River tributary near Great Falls, Mont.

Location.--Lat  $47^{\circ}32'$ , long  $111^{\circ}24'$ , in SW $\frac{1}{4}$  sec.31, T.21 N., R.3 E., at bridge on Interstate Highway 15 and U.S. Highways 89 and 91, 4 miles northwest of Great Falls.

Drainage area.--21.1 sq mi.

Records available.--August 1955 to

Gage.--Crest-stage gage installed Aug. 15, 1955.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1956	Mar. 20, 1956	1.20	1
1957	June 16, 1957	1.05	.1
1958	July 3, 1958	2.74	156
1959	Mar. 2, 1959	2.52	116
1960	May 23, 1960	1.28	6
1961	--	--	(c)

c No evidence of flow during year.

## 6-997 North Fork Dry Fork Marias River near Dupuyer, Mont.

Location.--Lat  $48^{\circ}09'$ , long  $112^{\circ}28'$ , in NE $\frac{1}{4}$  sec.35, T. 28 N., R. 7 W., at culvert on county road, 4 miles southeast of Dupuyer.

Drainage area.--20.2 sq mi.

Records available.--May 1959 to

Gage.--Crest-stage gage installed May 28, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1960	Mar. 17, 1960	b 1.24	a 70
1961	May 7, 1961	.29	10

## 6-1002 Heines Coulee tributary near Valier, Mont.

Location.--Lat  $48^{\circ}15'$ , long  $112^{\circ}14'$ , in NE $\frac{1}{4}$  sec.27, T.29 N., R.5 W., at culvert on county road, 4 miles south of Valier.

Drainage area.--0.60 sq mi.

Records available.--May 1959 to

Gage.--Crest-stage gage installed May 27, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1960	May 1, 1960	0.92	9
1961	May 17, 1961	.54	4

a About

b Backwater from ice

## 6-1003 Lone Man Coulee near Valier, Mont.

Location.--Lat  $48^{\circ}14'$ , long  $112^{\circ}14'$ , in SE $\frac{1}{4}$  sec.27, T.29 N., R.5 W.,  
at culvert on county road, 5 miles south of Valier.

Drainage area.--14.1 sq mi.

Records available.--May 1959 to

Gage.--Crest-stage gage installed May 27, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1960	May 1, 1960	0.58	32
1961	May 17, 1961	.36	22

## 6-1021 Dry Fork Coulee tributary near Loma, Mont.

Location.--Lat  $47^{\circ}57'$ , long  $110^{\circ}33'$ , in SW $\frac{1}{4}$  sec.2, T.25 N., R.9 E., at  
culvert on county road, 2 miles west of Loma.

Drainage area.--0.84 sq mi.

Records available.--May 1959 to

Gage.--Crest-stage gage installed May 25, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1959	d Mar. 1, 1959	4.02	71
1960	Mar. 17, 1960	.41	a 2
1961	May 31, 1961	b 1.42	a 1

a About

b Backwater from debris

d Prior to installation of gage; peak discharge computed from high-water marks along highway embankment at culvert.

## 6--1022 Marias River tributary at Loma, Mont.

Location.--Lat  $47^{\circ}57'$ , long  $110^{\circ}31'$ , in SW $\frac{1}{4}$ SE $\frac{1}{4}$  sec.1, T.25 N., R.9, E.,  
at bridge on county road, five eighths of a mile west of Loma.

Drainage area.--1.62 sq mi.

Records available.--August 1955 to

Gage.--Crest-stage gage, installed Aug. 18, 1955.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1956	1956	0.8	Not determined
1957	Mar. 1, 1957	1.74	Not determined
1958	Mar. 29, 1958	.68	a 4
1959	Mar. 1, 1959	2.9	Not determined
1960	Mar. 17, 1960	1.50	a 6
1961	--	--	(c)

## 6-1023 Marias River tributary No. 2 at Loma, Mont.

Location.--Lat  $47^{\circ}57'$ , long  $110^{\circ}30'$ , in NE $\frac{1}{4}$ NE $\frac{1}{4}$  sec.12, T.25 N., R.9 E.,  
at culvert on approach to U.S. Highway 87, a quarter of a mile north  
of Loma.

Drainage area.--0.25 sq mi.

Records available.--August 1955 to

Gage.--Crest-stage gage installed Aug. 18, 1955.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1956	May 27, 1956	2.97	Not determined
1957	Mar. 1, 1957	2.46	Not determined
1958	Mar. 29, 1958	1.40	a 1
1959	February 1959	1.01	Not determined
1960	Mar. 17, 1960	1.73	Not determined
1961	--	--	(c)

a About

c No evidence of flow during year.

## 6-1099 Judith River tributary near Utica, Mont.

Location.--Lat  $46^{\circ}53'$ , long  $110^{\circ}16'$ , in SW $\frac{1}{4}$  sec.13, T.13 N., R.11 E., at bridge on county road, 10 miles southwest of Utica.

Drainage area.--7.17 sq mi.

Records available.--May 1959 to

Gage.--Crest-stage gage installed May 21, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1960	Mar. 18, 1960	0.65	Not determined
1961	--	--	(c)

## 6-1099.5 Judith River tributary No. 2 near Utica, Mont.

Location.--Lat  $46^{\circ}54'$ , long  $110^{\circ}15'$ , in SE $\frac{1}{4}$  sec. 7, T.13 N., R.12 E., at bridge on county road, 9 $\frac{1}{2}$  miles southwest of Utica.

Drainage area.--6.97 sq mi.

Records available.--May 1959 to

Gage.--Crest-stage gage installed May 21, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1960	Mar. 18, 1960	0.70	Not determined
1961	--	--	(c)

c No evidence of flow during year.



## 6-1117 Casino Creek tributary near Lewistown, Mont.

Location.--Lat 47°00', long 109°26', in NE $\frac{1}{4}$  sec.9, T.14 N., R.18 E., at culverts on county road, 5 miles south of Lewistown.

Drainage area.--3.53 sq mi.

Records available.--May 1959 to

Gage.--Crest-stage gage installed May 21, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1960	Mar. 18, 1960	0.94	Not determined
1961	--	--	(c)

## 6-1206 Antelope Creek tributary near Harlowton, Mont.

Location.--Lat 46°39', long 109°59', in NE $\frac{1}{4}$  sec.8, T.10 N., R.14 E., at culvert on county road, 18.3 miles northwest of Harlowton.

Drainage area.--0.47 sq mi.

Records available.--July 1955 to

Gage.--Crest-stage gage installed July 13, 1955.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1956	June 15, 1956	1.36	13
1957	March 1957	.56	7
1958	--	--	(c)
1959	March 1959	1.72	3
1960	Mar. 18, 1960	2.04	6
1961	June 13, 1961	.25	(c)

c No evidence of flow during year.

6-1207 Antelope Creek tributary near mouth, near Harlowton, Mont.

Location.--Lat  $46^{\circ}37'$ , long  $109^{\circ}57'$ , in NW $\frac{1}{4}$  sec.22, T.10 N., R.14 E., at bridge on county road, 16.3 miles northwest of Harlowton.

Drainage area.--1.92 sq mi (revised)

Records available.--July 1955 to

Gage.--Crest-stage gage installed July 12, 1955.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1956	Mar. 17, 1956	1.60	207
1957	June 16, 1957	1.51	188
1958	May 23, 1958	.17	17
1959	Mar. 20, 1959	.75	65
1960	Mar. 18, 1960	.42	33
1961	--	--	(c)

6-1208 Antelope Creek tributary No. 2 near Harlowton, Mont.

Location.--Lat  $46^{\circ}28'$ , long  $109^{\circ}49'$ , in SE $\frac{1}{4}$  sec.10, T.8 N., R.15 E., at E. S. Bacon ranch,  $1\frac{1}{2}$  miles north of Harlowton.

Drainage area.--21.2 sq mi.

Records available.--July 1955 to

Gage.--Crest-stage gage installed July 13, 1955.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1956	June 15, 1956	3.51	Not determined
1957	June 21, 1957	1.95	Not determined
1958	June 1958	.36	Not determined
1959	Mar. 20, 1959	.57	Not determined
1960	--	--	(g)
1961	--	--	(g)

c No evidence of flow during year.

g Peak discharge did not reach bottom of gage.

## 6-1209 Antelope Creek at Harlowton, Mont.

Location.--Lat  $46^{\circ}26'$ , long  $109^{\circ}49'$ , in NE $\frac{1}{4}$  sec.22, T.8 N., R.15 E., on overpass on U. S. Highway 12 at Harlowton.

Drainage area.--88.7 sq mi.

Records available.--July 1955 to

Gage.--Crest-stage gage installed July 12, 1955.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1950	d June 17, 1950	16.73	24,400
1954	d Aug. 15, 1954	4.52	1,600
1955	d June 26, 1955	3.01	591
1956	June 15, 1956	3.28	800
1957	June 21, 1957	1.52	170
1958	---	(g)	<30
1959	---	(g)	<30
1960	--	(g)	<30
1961	--	(g)	<30

## 6-1277 Box Elder Creek tributary near Winnett, Mont.

Location.--Lat  $47^{\circ}01'$ , long  $108^{\circ}10'$ , in SW $\frac{1}{4}$ NW $\frac{1}{4}$  sec.34, T.15 N., R.28 E., a quarter of a mile north of State Highway 20 and 8 miles east of Winnett.

Drainage area.--16.2 sq mi.

Records available.--July 1955 to

Gage.--Crest-stage gage installed July 14, 1955.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1955	Aug. 23, 1955	2.20	132
1956	June 18, 1956	2.11	123
1957	Feb. 28, 1957	.66	27
1958	July 31, 1958	2.86	193
1959	Mar. 1, 1959	3.86	412
1960	Mar. 18, 1960	3.37	275
1961	Aug. 10, 1961	.90	40

d Prior to installation of gage.

g Peak discharge did not reach bottom of gage.

6-1282 North Fork McDonald Creek tributary near Heath, Mont.

Location.--Lat  $47^{\circ}04'$ , long  $109^{\circ}13'$ , in NE $\frac{1}{4}$  sec.17, T.15 N., R.20 E., at culvert on U.S. Highway 87 and State Highway 20, 5 miles northeast of Heath.

Drainage area.--2.24 sq mi.

Records available.--May 1959 to

Gage.--Crest-stage gage installed May 19, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1960	Mar. 18, 1960	1.04	Not determined
1961	Oct. 1, 1960	.02	Not determined

6-1283 Alkali Creek near Heath, Mont.

Location.--Lat  $47^{\circ}05'$ , long  $109^{\circ}09'$ , in SE $\frac{1}{4}$  sec.11, T.15 N., R. 20 E., at bridge on county road,  $7\frac{1}{2}$  miles northeast of Heath.

Drainage area.--3.76 sq mi.

Records available.--May 1959 to

Gage.--Crest-stage gage installed May 19, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1960	Mar. 18, 1960	1.83	Not determined
1961	Feb. 20, 1961	b .62	Not determined

b Backwater from ice.

## 6-1285 McDonald Creek at Winnett, Mont.

Location.--Lat  $47^{\circ}00'$ , long  $108^{\circ}21'$ , in NW $\frac{1}{4}$  sec.7, T.14 N., R.27 E., at bridge on State Secondary Highway 244, three-quarters of a mile south of Winnett.

Drainage area.--421 sq mi.

Records available.--April 1930 to December 1932, February 1934 to September 1945 and February 1953 to September 1956 (continuous record), October 1956 to

Gage.--Crest-stage gage installed Sept. 19, 1960. Prior to Oct. 1, 1956 wire-weight gage and Oct. 1, 1956, to March 1960, crest-stage gage 1 mile downstream at different datum.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1931	Mar. 1-3, 1931	13.30	f 4.2
1932	June 9, 1932	20.40	f 562
1934	June 9, 1934	18.12	f 351
1935	July 8, 1935	18.30	f 371
1936	Mar. 5, 1936	--	a 220
1937	July 13, 1937	18.75	401
1938	July 8, 1938	18.71	f 328
1939	June 19, 1939	4.55	270
1940	Mar. 3, 1940	--	a 75
1941	June 28, 1941	5.42	482
1942	May 15 or 16, 1942	7.5	900
1943	June 8, 18, 1943	5.59	f 549
1944	June 20, 1944	7.40	853
1945	June 7, 1945	2.48	f 180
1953	June 10, 1953	5.66	f 424
1954	Aug. 5, 1954	3.00	.47
1955	Apr. 11, 1955	4.39	241
1956	Aug. 3, 1956	2.55	88
1957	Mar. 19, 1957	2.20	67
1958	July 19, 1958	3.23	150
1959	Mar. 1, 1959	b 6.84	Not determined
1960	Mar. 19, 1960	4.44	Not determined
1961	Mar. 20, 1961	1.25	.1

a About

b Backwater from ice or beaver dam

f Maximum observed

6-1287 Gorman Coulee near Cat Creek, Mont. (Previously published as Box Elder Creek tributary No. 2 near Cat Creek, Mont.)

Location.--Lat  $47^{\circ}01'$ , long  $108^{\circ}06'$ , in SW $\frac{1}{4}$ SW $\frac{1}{4}$  sec.31, T.15 N., R.29 E., at culvert on State Highway 20, 6 miles southwest of Cat Creek.

Drainage area.--2.32 sq mi.

Records available.--July 1955 to

Gage.--Crest-stage gage installed July 14, 1955.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1955	Aug. 23, 1955	5.59	385
1956	June 18, 1956	2.73	126
1957	Aug. 30, 1957	1.37	43
1958	July 19, 1958	2.09	83
1959	June 26, 1959	1.84	68
1960	--	--	Unknown
1961	--	--	(c)

6-1288 Gorman Coulee tributary near Cat Creek, Mont. (Previously published as Box Elder Creek tributary No. 3 near Cat Creek, Mont.)

Location.--Lat  $47^{\circ}01'$ , long  $108^{\circ}06'$ , in SE $\frac{1}{4}$ SW $\frac{1}{4}$  sec.31, T.15 N., R.29 E., at culvert on State Highway 20, 6 miles southwest of Cat Creek.

Drainage area.--0.81 sq mi.

Records available.--May 1955 to

Gage.--Crest-stage gage installed May 27, 1955.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1955	Aug. 23, 1955	3.02	159
1956	June 18, 1956	.96	32
1957	Aug. 30, 1957	1.24	44
1958	July 31, 1958	2.52	122
1959	Sept. 22, 1959	.28	10
1960	Mar. 18, 1960	.37	12
1961	Aug. 10, 1961	.50	15



## 6-1322.5 Livermore Creek near Babb, Mont.

Location.--Lat 48°46', long 113°11', in NE¼ sec.28, T.35 N., R.12 W., at bridge on State Secondary Highway 464, 13½ miles southeast of Babb.

Drainage area.--25.0 sq mi.

Records available.--August 1961 to

Gage.--Crest-stage gage installed Aug. 13, 1961.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1961	--	--	Unknown

## 6-1323. Middle Fork Milk River near Babb, Mont.

Location.--Lat 48°51', long 113°13', in SE¼ sec.30, T.36 N., R.12 W., at culvert on State Secondary Highway 464, 10 miles east of Babb.

Drainage area.--14.0 sq mi.

Records available.--August 1961 to

Gage.--Crest-stage gage installed Aug. 13, 1961.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1961	--	--	Unknown

## 6-1324. Dry Fork Milk River near Babb, Mont.

Location.--Lat  $48^{\circ}50'$ , long  $113^{\circ}12'$ , in SE $\frac{1}{4}$  sec.32, T.36 N., R.12 W., at bridge on State Secondary Highway 464, 11 miles east of Babb.

Drainage area.--17.4 sq mi.

Records available.--August 1961 to

Gage.--Crest-stage gage installed Aug. 13, 1961.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1961	--	--	Unknown

## 6-1327. Milk River near Del Bonita, Mont.

Location.--Lat  $48^{\circ}57'$ , long  $112^{\circ}45'$ , in center of N $\frac{1}{2}$  sec.23, T.37 N., R.9 W., at bridge on State Secondary Highway 483, 3 $\frac{1}{2}$  miles southeast of customs post at Del Bonita.

Drainage area.--325 sq mi.

Records available.--August 1961 to

Gage.--Crest-stage gage installed Aug. 12, 1961

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1961	--	--	Unknown

## 6-1379 Sage Creek tributary at Hingham, Mont.

Location.--Lat  $48^{\circ}34'$ , long  $110^{\circ}25'$ , in center sec.3, T.32 N., R.10 E., at culvert on farm road, half a mile northeast of Hingham.

Drainage area.-- 1.08 sq mi.

Records available.--May 1959 to

Gage.--Crest-stage gage installed May 27, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1960	Mar. 17, 1960	1.51	14
1961	--	--	(c)

## 6-1387 South Fork Spring Coulee near Havre, Mont.

Location.--Lat  $48^{\circ}25'$ , long  $109^{\circ}50'$ , in NE $\frac{1}{4}$  sec.31, T.31 N., R.15 E., at culvert on county road, 12 miles southwest of Havre.

Drainage area.--6.47 sq mi.

Records available.--May 1959 to

Gage.--Crest-stage gage installed May 26, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1960	Mar. 17, 1960	2.04	33
1961	May 31, 1961	.04	2

6-1388 Spring Coulee near Havre, Mont.

Location.--Lat  $48^{\circ}25'$ , long  $109^{\circ}52'$ , in NW $\frac{1}{4}$  sec.25, T.31 N., R.14 E., at culverts in county road, 13 miles southwest of Havre.

Drainage area.--17.8 sq mi.

Records available.--May 1959 to

Gage.--Crest-stage gage installed May 26, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1959	d Mar. 11, 1959	5.60	257
1960	Mar. 17, 1960	—	a 10
1961	--	--	(c)

a About.

c No evidence of flow during year.

d Prior to installation of gage; peak discharge computed from high-water marks along highway embankment at culvert.

## 6-1395 Big Sandy Creek near Assinniboine, Mont.

Location.--Lat  $48^{\circ}32'$ , long  $109^{\circ}50'$  in SW $\frac{1}{4}$ SW $\frac{1}{4}$  sec.18, T.32 N., R.15 E.,  
2 miles northwest of Assinniboine.

Drainage area.--1,805 sq mi.

Records available.--February 1946 to November 1953 (continuous record),  
April 1955 to

Gage.--Water-stage recorder re-installed Apr. 9, 1955.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1946	Feb. 27, 1946	--	h 86
1947	Mar. 21, 1947	9.68	i2,080
1948	Mar. 22, 1948	--	h 17
1949	Mar. 31, 1949	--	h 5
1950	Mar. 29, 1950	3.88	208
1951	Mar. 23, 1951	5.01	391
1952	Apr. 3, 1952	14.70	5,570
1953	June 6, 1953	6.56	714
1954	--	--	Unknown
1955	Apr. 11, 1955	6.48	698
1956	Mar. 30, 1956	b6.47	a550
1957	Feb. 28, 1957	b5.13	a250
1958	Mar. 28, 1958	--	a500
1959	Mar. 11, 1959	7.80	1,100
1960	Mar. 25, 1960	a4.1	215
1961	June 3, 1961	3.64	132

a About.

b Backwater from ice.

h Maximum daily.

i Maximum recorded.

## 6-1404 Bullhook Creek near Havre, Mont.

Location.--Lat  $48^{\circ}31'$ , long  $109^{\circ}38'$ , in NE $\frac{1}{4}$  sec.27, T.32 N., R.16 E., at bridge on county road,  $3\frac{1}{2}$  miles south of Havre.

Drainage area.--39.6 sq mi.

Records available.--May 1959 to

Gage.--Crest-stage gage installed May 26, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1960	Mar. 18, 1960	1.84	Not determined
1961	--	--	(c)

## 6-1419 Milk River tributary near Lohman, Mont.

Location.--Lat  $48^{\circ}35'$ , long  $109^{\circ}26'$ , in SW $\frac{1}{4}$  sec.30, T.33 N., R.18 E., at culvert on U.S. Highway 2, 1.2 miles west of Lohman.

Drainage area.--0.16 sq mi.

Records available.--May 1959 to

Gage.--Crest-stage gage installed May 26, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1960	Mar. 15, 1960	0.24	1.5
1961	--	--	(c)

c No evidence of flow during year.



## 6-1551 Black Coulee near Malta, Mont.

Location.--Lat  $48^{\circ}13'$ , long  $108^{\circ}02'$ , in NE $\frac{1}{4}$  sec.1, T.28 N., R.28 E., at bridge on State Highway 19, 12 miles southwest of Malta.

Drainage area.--6.64 sq mi.

Records available.--July 1955 to

Gage.--Crest-stage gage installed July 27, 1955.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1956	July 3, 1956	1.98	Not determined
1957	Mar. 19, 1957	1.85	Not determined
1958	April 1958	1.02	Not determined
1959	Mar. 13, 1959	2.93	Not determined
1960	Mar. 18, 1960	3.21	Not determined
1961	May 30, 1961	1.04	Not determined

## 6-1552 Alkali Creek near Malta, Mont.

Location.--Lat  $48^{\circ}16'$ , long  $107^{\circ}58'$ , near center sec.16, T. 29 N., R.29 E., at bridge on State Highway 19, 8 $\frac{1}{4}$  miles southwest of Malta.

Drainage area.--162 sq mi.

Records available.--July 1955 to

Gage.--Crest-stage gage installed July 27, 1955.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1956	Mar. 19, 1956	b 0.85	a 45
1957	Mar. 21, 1957	1.69	355
1958	Mar. 25, 1958	.82	104
1959	Mar. 13, 1959	b 3.0	a 800
1960	--	--	Unknown
1961	--	(g)	< 220

a About.

b Backwater from ice.

g Peak discharge did not reach bottom of gage.

## 6-1553 Disjardin Coulee near Malta, Mont.

Location.--Lat  $48^{\circ}16'$ , long  $107^{\circ}58'$ , in SE $\frac{1}{4}$ NW $\frac{1}{4}$  sec.16, T.29 N., R.29 E., at bridge on State Highway 19, 8 miles southwest of Malta.

Drainage area.--3.42 sq mi.

Records available.--July 1955 to

Gage.--Crest-stage gage installed July 26, 1955.

Annual maximum data.--

<u>water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1956	Aug. 5, 1956	3.22	160
1957	Mar. 19, 1957	1.02	22
1958	--	--	(c)
1959	Mar. 18, 1959	1.62	132
1960	Mar. 18, 1960	.61	32
1961	May 30, 1961	.44	20

## 6-1554 South Fork Taylor Creek near Malta, Mont.

Location.--Lat  $48^{\circ}19'$ , long  $107^{\circ}55'$ , in SE $\frac{1}{4}$  sec.26, T.30 N., R.29 E., at bridge on State Highway 19, 3 $\frac{1}{2}$  miles southwest of Malta.

Drainage area.--5.08 sq mi.

Records available.--July 1955 to

Gage.--Crest-stage gage installed July 28, 1955.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1956	Mar. 19, 1956	1.75	52
1957	Mar. 19, 1957	1.43	22
1958	--	--	(c)
1959	July 13, 1959	1.94	84
1960	Mar. 18, 1960	1.89	75
1961	July 30, 1961	.90	2

c No evidence of flow during year.

## 6-1756 West Fork Wolf Creek near Lustre, Mont.

Location.--Lat  $48^{\circ}23'$ , long  $106^{\circ}00'$ , in SW $\frac{1}{4}$  sec.3, T.30 N., R.44 E., at bridge on county road, 5 miles west of Lustre.

Drainage area.--6.57 sq mi.

Records available.--June 1955 to

Gage.--Crest-stage gage installed June 9, 1955.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1956	June 26, 1956	0.89	Not determined
1957	Apr. 23, 1957	2.24	Not determined
1958	--	--	(c)
1959	Mar. 25, 1959	.68	Not determined
1960	Mar. 18, 1960	1.99	Not determined
1961	Apr. 3, 1961	.33	Not determined

## 6-1757 East Fork Wolf Creek near Lustre, Mont.

Location.--Lat  $48^{\circ}24'$ , long  $105^{\circ}48'$ , in SE $\frac{1}{4}$  sec.30, T.31 N., R.46 E., at culverts on county road, 4 miles east of Lustre.

Drainage area.--9.61 sq mi.

Records available.--June 1955 to

Gage.--Crest-stage gage installed June 9, 1955.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1956	April 1956	3.24	Not determined
1957	March 1957	3.28	Not determined
1958	March 1958	.58	Not determined
1959	June 21, 1959	.45	Not determined
1960	Mar. 19, 1960	--	a 150
1961	Mar. 5, 1961	--	a 130

a About.

c No evidence of flow during year.

## 6-1758 Wolf Creek tributary near Wolf Point, Mont.

Location.--Lat  $48^{\circ}14'$ , long  $105^{\circ}46'$ , sec. 29, T.29 N., R.46 E., at bridge on county road, 15 miles northwest of Wolf Point.

Drainage area.--2.46 sq mi.

Records available.--June 1955 to

Gage.--Crest-stage gage installed June 24, 1955.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1955	July 1955	0.50	Not determined
1956	April 1956	1.61	Not determined
1957	March 1957	.89	Not determined
1958	--	--	(c)
1959	Mar. 25, 1959	.97	Not determined
1960	--	--	Unknown
1961	Mar. 5, 1961	.33	Not determined

## 6-1759 Wolf Creek tributary No. 2 near Wolf Point, Mont.

Location.--Lat  $48^{\circ}12'$ , long  $105^{\circ}45'$ , in sec.11, T.28 N., R.46 E., at bridge on county road,  $9\frac{1}{2}$  miles northwest of Wolf Point.

Drainage area.--6.54 sq mi.

Records available.--June 1955 to

Gage.--Crest-stage gage installed June 24, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1955	July 1955	1.50	Not determined
1956	April 1956	1.92	Not determined
1957	July 14, 1957	2.03	Not determined
1958	Mar. 24, 1958	1.62	Not determined
1959	June 20, 1959	3.81	979
1960	Mar. 18, 1960	3.24	Not determined
1961	May 21, 1961	3.00	Not determined

c No evidence of flow during year.

## 6-1765 Wolf Creek near Wolf Point, Mont.

Location.--Lat  $48^{\circ}06'$ , long  $105^{\circ}41'$ , N $\frac{1}{2}$  sec.17, T.27 N., R.47 E., 2 miles northwest of Wolf Point.

Drainage area.--251 sq mi (revised).

Records available.--August 1908 to July 1914 and March 1950 to September 1953 (continuous record), May 1955 to

Gage.--Water-stage recorder re-installed May 6, 1955.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1909	--	---	Unknown
1910	Mar. 13-15, 1910	3.9	f 110
1911	Mar. 19-23, 1911	4.45	f 154
1912	Apr. 1, 1912	5.9	f 270
1913	--	---	Unknown
1914	--	---	Unknown
1950	Apr. 18, 1950	5.30	188
1951	Apr. 5, 1951	6.06	324
1952	Apr. 7, 1952	9.25	7,050
1953	June 3, 1953	7.29	1,010
1954	Apr. 4 or 5, 1954	12.9	9,780
1956	Mar. 23, 1956	--	a 60
1957	July 14, 1957	5.29	a 180
1958	e Apr. 1, 1958	3.30	a 6
1959	June 21, 1959	6.74	a 330
1960	Mar. 20, 1960	9.71	Not determined
1961	May 22, 1961	5.97	120

a About

e Revised

f Maximum observed

6-1770.5 East Fork Duck Creek near Brockway, Mont.

Location.--Lat  $47^{\circ}12'$ , long  $105^{\circ}47'$ , in sec.31, T.17 N., R.47 E., at bridge on county road, 8 miles south of Brockway.

Drainage area.--12.4 sq mi.

Records available.--June 1955 to

Gage.--Crest-stage gage installed June 13, 1955.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1955	July 12, 1955	1.46	106
1956	Mar. 2, 1956	1.08	60
1957	July 14, 1957	3.64	505
1958	July 21, 1958	.19	8
1959	Mar. 18, 1959	2.47	273
1960	Aug. 16, 1960	1.65	140
1961	May 31, 1961	1.62	134

6-1771 Duck Creek near Brockway, Mont.

Location.--Lat  $47^{\circ}15'$ , long  $105^{\circ}49'$ , in SE $\frac{1}{4}$  sec.11, T.17 N., R.46 E., at bridge on county road, 5 miles southwest of Brockway.

Drainage area.--54.0 sq mi.

Records available.--1921-22, miscellaneous measurements only. May 1957 to

Gage.--Crest-stage gage installed May 21, 1957.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1957	July 14, 1957	4.00	610
1958	July 3, 1958	1.05	10
1959	Mar. 18, 1959	5.15	1,000
1960	Mar. 20, 1960	3.57	520
1961	June 1, 1961	-.06	a 1



## 6-1771.5 Redwater Creek at Brockway, Mont.

Location.--Lat  $47^{\circ}19'$ , long  $105^{\circ}45'$ , in NW $\frac{1}{4}$  sec.20, T.18 N., R.47 E., at bridge on county road, a quarter of a mile northwest of Brockway.

Drainage area.--216 sq mi.

Records available.--January 1958 to

Gage.--Crest-stage gage installed Jan. 16, 1958.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1957	d July 14, 1957	5.8	1,220
1958	July 3, 1958	1.86	130
1959	Mar. 18, 1959	5.53	1,130
1960	Mar. 20, 1960	b 6.94	a 1,000
1961	June 1, 1961	2.26	200

## 6-1772 Tusler Creek near Brockway, Mont.

Location.--Lat  $47^{\circ}18'$ , long  $105^{\circ}39'$ , in SE $\frac{1}{4}$  sec.24, T.18 N., R.47 E., at bridge on county road, 4 miles east of Brockway.

Drainage area.--90.2 sq mi.

Records available.--October 1956 to

Gage.--Crest-stage gage installed Oct. 12, 1956.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1957	Feb. 27, 1957	1.66	200
1958	July 21, 1958	-.22	14
1959	Mar. 18, 1959	b 2.16	a 150
1960	Mar. 20, 1960	1.96	280
1961	Mar. 6, 1961	-.04	18

a About.

b Backwater from ice.

d Prior to installation of gage.

## 6-1772.5 Tusler Creek tributary near Brockway, Mont.

Location.--Lat  $47^{\circ}18'$ , long  $105^{\circ}41'$ , in NE $\frac{1}{4}$  sec.26, T.18 N., R.47 E., at bridge on county road, 4 miles east of Brockway.

Drainage area.--3.17 sq mi.

Records available.--September 1956 to

Gage.--Crest-stage gage installed Sept. 15, 1956.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1957	July 14, 1957	0.81	Not determined
1958	--	--	(c)
1959	Mar. 18, 1959	.46	Not determined
1960	Aug. 16, 1960	1.10	Not determined
1961	--	--	(c)

## 6-1773 Redwater Creek tributary near Brockway, Mont.

Location.--Lat  $47^{\circ}21'$ , long  $105^{\circ}41'$ , in NE $\frac{1}{4}$ SE $\frac{1}{4}$  sec.2, T.18 N., R.47 E., at culvert on State Highway 20, 4 miles northeast of Brockway.

Drainage area.--0.29 sq mi.

Records available.--January 1958 to

Gage.--Crest-stage gage installed Jan. 15, 1958.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1954	d Aug. 18, 1954	7.40	72
1957	d July 14, 1957	9.40	83
1958	--	--	(c)
1959	Mar. 18, 1959	b 4.35	a 20
1960	Mar. 20, 1960	1.17	12
1961	July 29, 1961	1.65	16

a About

b Backwater from ice.

c No evidence of flow during year.

d Prior to installation of gage; peak discharge computed from high-water marks along highway embankment at culvert.

## 6-1773.5 South Fork Dry Ash Creek near Circle, Mont.

Location.--Lat  $47^{\circ}18'$ , long  $105^{\circ}35'$ , in NW $\frac{1}{4}$  sec.27, T.18 N., R.48 E., at bridge on county road,  $9\frac{1}{4}$  miles south of Circle.

Drainage area.--5.74 sq mi.

Records available.--June 1955 to

Gage.--Crest-stage gage installed June 13, 1955.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1955	July 12, 1955	2.18	56
1956	Mar. 1, 1956	1.37	17
1957	Feb. 26, 1957	1.58	52
1958	June 3, 1958	.23	3
1959	Mar. 22, 1959	2.12	79
1960	Aug. 16, 1960	2.40	85
1961	--	--	(c)

## 6-1774 McCune Creek near Circle, Mont.

Location.--Lat  $47^{\circ}21'$ , long  $105^{\circ}35'$ , in NW $\frac{1}{4}$  sec.3, T.18 N., R.48 E., near bridge on county road, 5 miles south of Circle.

Drainage area.--29.9 sq mi.

Records available.--June 1955 to

Gage.--Crest-stage gage installed June 13, 1955.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1955	July 12, 1955	4.32	128
1956	Mar. 20, 1956	3.31	52
1957	July 14, 1957	4.93	175
1958	June 3, 1958	.98	6
1959	Mar. 22, 1959	--	Unknown
1960	Mar. 20, 1960	5.44	a 150
1961	Mar. 6, 1961	1.36	a 5

a About

c No evidence of flow during year.

6-1830 Blg Muddy Creek at Plentywood, Mont.

Location.--Lat  $48^{\circ}46'$ , long  $104^{\circ}35'$ , in NW $\frac{1}{4}$ NW $\frac{1}{4}$  sec.30, T.35 N., R.55 E., at Plentywood.

Drainage area.--850 sq mi.

Records available.--April 1948 to September 1953 (continuous record), June 1955 to

Gage.--Crest-stage gage installed June 10, 1955. Recording gage April 1948 to September 1953.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1948	Apr. 19, 1948	15.64	2,850
1949	Mar. 30, 1949	10.49	1,020
1950	Apr. 18, 1950	12.27	1,620
1951	May 3, 1951	11.38	1,360
1952	Apr. 8, 1952	19.00	7,240
1953	June 30, 1953	19.40	8,000
1954	--	--	Unknown
1955	--	(g)	<210
1956	Mar. 22, 1956	b 6.63	a 300
1957	July 16, 1957	6.58	413
1958	Mar. 29, 1958	12.92	1,630
1959	June 30, 1959	10.61	945
1960	Mar. 22, 1960	b 17.37	a 3,500
1961	May 30, 1961	6.03	260

a About.

b Backwater from ice.

g Peak discharge did not reach bottom of gage.

6-1831 Box Elder Creek near Plentywood, Mont.

Location.--Lat  $48^{\circ}50'$ , long  $104^{\circ}30'$ , in sec.34, T.36 N., R.55 E., at culverts on county road, 4 miles northeast of Plentywood.

Drainage area.--9.40 sq mi.

Records available.--June 1955 to

Gage.--Crest-stage gage installed June 10, 1955.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1956	March 1956	0.25	0
1957	July 23, 1957	7.24	328
1958	Mar. 30, 1958	1.88	22
1959	June 26, 1959	3.89	126
1960	Mar. 21, 1960	6.24	265
1961	July 30, 1961	1.58	41

6-1832 Box Elder Creek at damside, near Plentywood, Mont.

Location.--Lat  $48^{\circ}48'$ , long  $104^{\circ}33'$ , in NE $\frac{1}{4}$  sec.17, T.35 N., R.55 E., at old damside,  $1\frac{1}{2}$  miles north of Plentywood.

Drainage area.--19.9 sq mi.

Records available.--June 1955 to

Gage.--Crest-stage gage installed June 10, 1955.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1953	d June 30, 1953	6.52	6,530
1955	d Mar. 29, 1955	2.42	890
1956	--	--	(c)
1957	July 23, 1957	3.56	1,600
1958	Mar. 30, 1958	.75	210
1959	June 26, 1959	1.38	430
1960	Mar. 22, 1960	2.27	820
1961	Mar. 20, 1961	1.26	395

c No evidence of flow during year.

d Prior to installation of gage.

## 6-1833 Spring Creek near Plentywood, Mont.

Location.--Lat  $48^{\circ}49'$ , long  $104^{\circ}27'$ , in SW $\frac{1}{4}$  sec.6, T.35 N., R.55 E., at culvert on county road, 5 miles northeast of Plentywood.

Drainage area.--7.05 sq mi.

Records available.--June 1955 to

Gage.--Crest-stage gage installed June 10, 1955.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1955	July 7, 1955	0.69	5
1956	--	--	(c)
1957	July 23, 1957	2.77	76
1958	Mar. 30, 1958	1.49	25
1959	June 26, 1959	1.30	20
1960	Mar. 21, 1960	5.19	240
1961	July 30, 1961	1.20	17

## 6-1834 Spring Creek at Highway 16, near Plentywood, Mont.

Location.--Lat  $48^{\circ}46'$ , long  $104^{\circ}31'$ , in SE $\frac{1}{4}$  sec.21, T.35 N., R.55 E., at bridge on State Highway 16,  $1\frac{1}{2}$  miles east of Plentywood.

Drainage area.--16.9 sq mi.

Records available.--June 1955 to

Gage.--Crest-stage gage installed June 23, 1955.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1955	--	--	(c)
1956	Apr. 3, 1956	0.74	4
1957	July 23, 1957	3.38	540
1958	Mar. 30, 1958	2.40	230
1959	June 26, 1959	3.70	660
1960	May 24, 1960	3.56	600
1961	Mar. 20, 1961	1.02	10

c No evidence of flow during year.



## 6-2015.5 Yellowstone River tributary near Greycliff, Mont.

Location.--Lat  $45^{\circ}44'$ , long  $109^{\circ}43'$ , in SE $\frac{1}{4}$  sec.23, T.1 S., R.16 E., at culvert on Interstate Highway 90 and U. S. Highway 10, 4 miles southeast of Greycliff.

Drainage area.--2.72 sq mi.

Records available.--May 1959 to

Gage.--Crest-stage gage installed May 5, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1960	--	--	(c)
1961	--	--	(c)

## 6-2016 Bridger Creek near Greycliff, Mont.

Location.--Lat  $45^{\circ}41'$ , long  $109^{\circ}43'$ , in NW $\frac{1}{4}$  sec.2, T.2 S., R.16 E., at bridge on county road, 6 miles southeast of Greycliff.

Drainage area.--61.5 sq mi.

Records available.--May 1959 to

Gage.--Crest-stage gage installed May 5, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1960	May 1960	0.62	18
1961	March 1961	-.03	5

c No evidence of flow during year.

## 6-2016.5 Work Creek near Reed Point, Mont.

Location.--Lat  $45^{\circ}42'$ , long  $109^{\circ}38'$ , in SE $\frac{1}{4}$  sec.33, T.1 S., R.17 E., at bridge on county road, 4 miles west of Reed Point.

Drainage area.--32.5 sq mi.

Records available.--May 1959 to

Gage.--Crest-stage gage installed May 4, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1959	Sept. 21, 1959	2.3	Not determined
1960	May 1960	--	a 5
1961	--	--	(c)

## 6--2017 Hump Creek near Reed Point, Mont.

Location.--Lat  $45^{\circ}42'$ , long  $109^{\circ}35'$ , in NE $\frac{1}{4}$  sec.35, T.1 S., R.17 E., at bridge on Interstate Highway 90 and U.S. Highway 10, 2 miles west of Reed Point.

Drainage area.--7.61 sq mi.

Records available.--May 1959 to

Gage.--Crest-stage gage installed May 4, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1960	Mar. 19, 1960	0.50	Not determined
1961	--	--	(c)

a About.

c No evidence of flow during year.

## 6-2017.5 Berry Creek near Columbus, Mont.

Location--Lat 45°42', long 109°23', in NW¼ sec.33, T.1 S., R.19 E., at bridge on county road, 8 miles northwest of Columbus.

Drainage area--23.5 sq mi.

Records available--May 1959 to

Gage--Crest-stage gage installed May 4, 1959.

Annual maximum data--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1958	d July 7, 1958	4.54	620
1959	d Mar. 1, 1959	3.86	283
1960	June 15, 1960	.02	Not determined
1961	May 15, 1961	.10	Not determined

## 6-2017.7 Allen Creek near Park City, Mont.

Location--Lat 45°36', long 109°03', in NE¼ sec.7, T.3 S., R.22 E., about 200 ft upstream from Cove Ditch flume, 7 miles west of Park City.

Drainage area--7.17 sq mi.

Records available--June 1961 to

Gage--Crest-stage gage installed June 15, 1961.

Annual maximum data--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1961	d May 24, 1961	5.68	1,580

d Prior to installation of gage.

## 6-2162 Wets Creek near Billings, Mont.

Location.--Lat  $45^{\circ}38'$ , long  $108^{\circ}24'$ , in SW $\frac{1}{4}$  sec.28, T.2 S., R.27 E., at bridge on county road, 19 miles southeast of Billings.

Drainage area.--8.14 sq mi (revised).

Records available.--May 1955 to

Gage.--Crest-stage gage installed May 26, 1955.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1955	Aug. 25, 1955	--	a 5
1956	Feb. 22, 1956	3.23	65
1957	June 8, 1957	1.66	62
1958	July 2, 1958	.50	14
1959	June 4, 1959	1.14	39
1960	May 2, 1960	2.50	Not determined
1961	May 21, 1961	.40	10

## 6-2163 West Buckeye Creek near Billings, Mont.

Location.--Lat  $45^{\circ}39'$ , long  $108^{\circ}24'$ , in NE $\frac{1}{4}$  sec.21, T.2 S., R.27 E., at bridge on county road, 17 miles southeast of Billings.

Drainage area.--1.54 sq mi (revised).

Records available.--May 1955 to

Gage.--Crest-stage gage installed May 26, 1955.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1955	Aug. 25, 1955	1.54	17
1956	May 29, 1956	2.24	92
1957	May 12, 1957	1.81	185
1958	July 2, 1958	1.31	83
1959	June 4, 1959	.68	15
1960	May 2, 1960	1.16	60
1961	May 24, 1961	.80	22

## 6-2165 Pryor Creek near Billings, Mont.

Location.--Lat  $45^{\circ}43'$ , long  $108^{\circ}19'$ , in Sec.30, T.1 S., R.28 E., at bridge on Interstate Highway 90 and U.S. Highway 87, 11 miles southeast of Billings.

Drainage area.--435 sq mi.

Records available.--September 1911 to September 1924 and March 1938 to December 1953 (continuous record), May 1955 to

Gage.--Crest-stage gage installed May 26, 1955. Wire-weight gage September 1911 to September 1924 and March 1938 to December 1953.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1912	July 3, 1912	11.2	f 930
1913	a Mar. 30, 1913	12.54	1,130
1914	June 26, 1914	9.3	f 595
1915	June 12, 1915	9.7	f 645
1916	May 22, 1916	7.01	f 333
1917	June 5, 1917	10.44	f 750
1918	Mar. 27, 1918	8.35	f 480
1919	Aug. 2, 1919	7.30	f 344
1920	May 12, 1920	10.37	f 740
1921	June 9, 1921	9.60	f 635
1922	May 11, 1922	7.65	f 400
1923	Sept. 30, 1923	9.25	f 590
1924	Apr. 4, 1924	10.04	f 705
1938	June 24, 1938	7.9	1,230
1939	June 18, 1939	3.35	f 332
1940	Apr. 16, 1940	2.83	f 208
1941	Sept. 8, 1941	4.68	f 607
1942	May 14, 1942	9.2	1,500
1943	Mar. 26, 1943	--	h 1,000
1944	June 19, 1944	7.66	f 1,150
1945	June 11, 1945	4.80	625
1946	June 12, 1946	3.98	f 489
1947	Mar. 19, 1947	--	h 890
1948	Apr. 20, 1948	3.95	f 464
1949	June 3, 1949	2.22	f 133
1950	Feb. 25, 1950	--	h 230
1951	Mar. 22, 1951	b 9.82	f 761
1952	May 22, 1952	4.25	f 424
1953	June 7, 1953	2.43	f 145
1954	--	--	Unknown
1955	June 16, 1955	3.44	286
1956	Feb. 22, 1956	b 9.12	a 800
1957	June 8, 1957	6.14	825
1958	Feb. 20, 1958	3.26	262
1959	Mar. 2, 1959	4.65	508
1960	May 2, 1960	9.9	1,700
1961	Sept. 20, 1961	3.44	288

a About.

b Backwater from ice or beaver dam.

f Maximum observed

h Maximum daily

## 6-2951 Rosebud Creek near Kirby, Mont.

Location.--Lat  $45^{\circ}14'$ , long  $106^{\circ}57'$ , in NE $\frac{1}{4}$  sec.16, T.7 S., R.39 E., at culvert on private road, 7 miles south of Kirby.

Drainage area.--34.2 sq mi.

Records available.--April 1959 to

Gage.--Crest-stage gage installed Apr. 15, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1960	Mar. 19, 1960	1.78	Not determined
1961	--	--	(c)

## 6-2951.5 Ridgewalker Creek near Busby, Mont (Previously published as Rosebud Creek tributary near Busby, Mont.)

Location.--Lat  $45^{\circ}36'$ , long  $106^{\circ}49'$ , in NE $\frac{1}{4}$  sec.8, T.3 S., R.40 E., at bridge on State Highway 8, 8 miles east of Busby.

Drainage area.--2.24 sq mi.

Records available.--April 1959 to

Gage.--Crest-stage gage installed Apr. 15, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1959	March 1959	--	<5
1960	Mar. 20, 1960	0.83	Not determined
1961	July 20, 1961	.40	Not determined



6-2952 Whitedirt Creek near Lame Deer, Mont. (Previously published  
as Muddy Creek tributary near Lame Deer, Mont.)

Location--Lat  $45^{\circ}36'$ , long  $106^{\circ}44'$ , in NE $\frac{1}{4}$  sec.2, T.3 S., R.40 E., at bridge  
on county road,  $4\frac{1}{2}$  miles west of Lame Deer.

Drainage area--1.58 sq mi.

Records available--April 1959 to

Gage--Crest-stage gage installed Apr. 15, 1959.

Annual maximum data--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1959	March 1959	--	a 5
1960	Mar. 20, 1960	0.59	Not determined
1961	Sept. 10, 1961	.32	Not determined

6-2960 Rosebud Creek near Forsyth, Mont.

Location--Lat  $46^{\circ}11'50''$ , long  $106^{\circ}23'25''$ , in SW $\frac{1}{4}$  sec.9, T.5 N., R.42 E., 10  
miles southeast of Forsyth.

Drainage area--1,260 sq mi.

Records available--May 1947 to December 1953 (continuous record), July  
1955 to

Gage--Water-stage recorder re-installed July 15, 1955.

Annual maximum data--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1948	July 21, 1948	8.41	382
1949	Mar. 8, 1949	8.96	418
1950	June 9, 1950	7.90	250
1951	Sept. 1, 1951	8.42	280
1952	Mar. 29, 1952	7.81	269
1953	May 30, 1953	10.27	f 596
1954	--	--	Unknown
1955	--	--	< 50
1956	March 1956	8.78	a 350
1957	June 17, 1957	8.78	342
1958	March 1958	--	Not determined
1959	Mar. 3, 1959	--	a 570
1960	March 1960	--	Unknown
1961	Sept. 10, 1961	9.58	435

a about

f Maximum observed

## 6-3069.5 Leaf Rock Creek near Kirby, Mont.

Location.--Lat  $45^{\circ}11'$ , long  $106^{\circ}55'$ , in center sec.35, T.7 S., R.39 E., at culvert on county road, 10 miles south of Kirby.

Drainage area.--6.04 sq mi.

Records available.--April 1959 to

Gage.--Crest-stage gage installed Apr. 15, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1958	d June 7, 1958	6.77	222
1959	--	--	Unknown
1960	Mar. 19, 1960	5.03	168
1961	--	--	(c)

## 6-3082 Basin Creek tributary near Volborg, Mont.

Location.--Lat  $45^{\circ}53'$ , long  $105^{\circ}40'$ , in NW $\frac{1}{4}$  sec.31, T.2 N., R.49 E., at culvert on county road,  $3\frac{1}{2}$  miles north of Volborg.

Drainage area.--0.14 sq mi (revised).

Records available.--July 1955 to

Gage.--Crest-stage gage installed July 23, 1955.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1955	July 29, 1955	0.24	20
1956	--	---	(c)
1957	--	---	(c)
1958	July 2, 1958	6.96	390
1959	March 1959	---	a 2
1960	Mar. 21, 1960	.97	12
1961	--	---	(c)

a About

c No evidence of flow during year.

d Prior to installation of gage; peak discharge computed from high-water marks along highway embankment at culvert.

## 6-3083 Basin Creek near Volborg, Mont.

Location.--Lat  $45^{\circ}53'$ , long  $105^{\circ}39'$ , in NW $\frac{1}{4}$  sec.32, T.2 N., R.49 E., at bridge on U.S. Highway 212, 4 miles north of Volborg.

Drainage area.--10.9 sq mi

Records available.--July 1955 to

Gage.--Crest-stage gage installed July 23, 1955.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height(ft)</u>	<u>Discharge (cfs)</u>
1955	July 29, 1955	1.1	20
1956	Aug. 27, 1956	5.76	953
1957	Apr. 24, 1957	3.45	300
1958	July 2, 1958	5.79	965
1959	Mar. 11, 1959	1.87	75
1960	Mar. 21, 1960	5.26	770
1961	Sept. 10, 1961	1.04	18

## 6-3247 Sand Creek near Broadus, Mont.

Location.--Lat  $45^{\circ}26'$ , long  $105^{\circ}26'$ , in SE $\frac{1}{4}$  sec.5, T.5 S., R.51 E., at culverts on Moorhead road, 1.8 miles southwest of Broadus.

Drainage area.--10.6 sq mi

Records available.--July 1955 to

Gage.--Crest-stage gage installed July 22, 1955.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1955	--	--	(c)
1956	Mar. 16, 1956	1.75	19
1957	Aug. 28, 1957	1.55	15
1958	June 7, 1958	3.95	93
1959	Mar. 18, 1959	4.79	236
1960	Mar. 20, 1960	b 4.78	a 150
1961	--	--	(c)

a About.

b Backwater from ice.

c No evidence of flow during year.

## 6-3277 Krug Creek tributary near Wibaux, Mont.

Location.--Lat 47°01', long 104°19', in NW¼NW¼ sec.36, T.15 N., R.58 E., at culvert on Interstate Highway 94 and U.S. Highway 10, 8 miles northwest of Wibaux.

Drainage area.--1.74 sq mi.

Records available.--June 1955 to

Gage.--Crest-stage gage installed June 30, 1955.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1955	--	--	(c)
1956	March 1956	0.23	1
1957	Mar. 20, 1957	1.61	18
1958	July 3, 1958	2.70	49
1959	Mar. 18, 1959	.60	3
1960	June 12, 1960	3.00	70
1961	--	--	(c)

## 6-3278 Griffith Creek near Glendive, Mont.

Location.--Lat 47°06', long 104°34', in NE¼ sec.36, T.16 N., R.56 E., near bridge on Interstate Highway 94 and U. S. Highway 10, 8 miles east of Glendive.

Drainage area.--15.5 sq mi.

Records available.--June 1955 to

Gage.--Crest-stage gage installed June 30, 1955.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1955	July 28, 1955	1.80	a 100
1956	Mar. 19, 1956	.86	a 80
1957	Mar. 20, 1957	.27	50
1958	July 3, 1958	.55	101
1959	Mar. 17, 1959	.74	157
1960	Mar. 20, 1960	1.41	Not determined
1961	June 29, 1961	3.96	Not determined

a About

c No evidence of flow during year.

## 6-3329 North Creek near Alzada, Mont.

Location.--Lat 45°04' Long 104°31', in SE $\frac{1}{4}$  sec.7, T.9 S., R.59 E., 8 miles northwest of Alzada.

Drainage area.--0.68 sq mi.

Records available.--May to September 1951 (continuous record), July 1955 to

Gage.--Water-stage recorder re-installed July 21, 1955.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1951	June 17, 1951	5.18	260
1955	--	--	(c)
1956	July 2, 1956	4.32	276
1957	Aug. 28, 1957	4.32	276
1958	June 3, 1958	4.66	417
1959	June 30, 1959	3.21	58
1960	Aug. 17, 1960	3.77	142
1961	Sept. 18, 1961	4.05	203

## 6-3341 Wolf Creek near Hammond, Mont.

Location.--Lat 45°10', long 104°45', in SE $\frac{1}{4}$  sec.5, T.8 S., R.57 E., at culvert on U.S. Highway 212, 8 miles southeast of Hammond.

Drainage area.--9.09 sq mi.

Records available.--July 1955 to

Gage.--Crest-stage gage installed July 22, 1955.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1955	d July 11, 1955	4.08	298
1956	Mar. 22, 1956	3.45	175
1957	Aug. 29, 1957	4.58	365
1958	June 3, 1958	5.76	550
1959	Mar. 19, 1959	3.32	154
1960	Mar. 21, 1960	5.26	485
1961	Sept. 18, 1961	2.31	30

c No evidence of flow during year.

d Prior to installation of gage; peak discharge computed from high-water marks along highway embankment at culvert.

## 6-3364.5 Spring Creek near Wibaux, Mont.

Location.--Lat  $46^{\circ}53'$ , long  $104^{\circ}12'$ , in sec.14, T.13 N., R.59 E., near bridge on State Highway 7, 7 miles south of Wibaux.

Drainage area.--3.88 sq mi.

Records available.--June 1955 to

Gage.--Crest-stage gage installed June 29, 1955.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1956	March 1956	0.67	Not determined
1957	Sept. 9, 1957	1.36	Not determined
1958	March 1958	.54	Not determined
1959	Mar. 21, 1959	1.18	Not determined
1960	Mar. 30, 1960	.84	Not determined
1961	--	--	(c)

c No evidence of flow during year.



12-3005 Fortine Creek near Trego, Mont.

Location.--Lat  $48^{\circ}39'$ , long  $114^{\circ}55'$ , in NE $\frac{1}{4}$  sec.11, T.33 N., R.26 W.,  
5 $\frac{1}{2}$  miles southwest of Trego.

Drainage area.--112 sq mi.

Records available.--December 1946 to September 1953 (continuous record),  
July 1959 to

Gage.--Crest-stage gage installed July 1, 1959. Wire-weight gage December  
1946 to September 1953.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1947	Apr. 29, 1947	10.24	948
1948	May 22, 1948	10.46	1,000
1949	May 11, 1949	9.34	f 754
1950	May 16, 1950	11.8	1,810
1951	May 7, 1951	9.95	875
1952	Apr. 28, 1952	9.65	798
1953	May 7, 1953	9.90	860
1954	May 20, 1954	11.8	1,810
1958	May 24, 1958	10.2	a 850
1959	--	--	Unknown
1960	May 8, 1960	9.7	700
1961	May 11, 1961	a 10.0	a 700

a About.

f Maximum observed.

## 12-3008 Deep Creek near Fortine, Mont.

Location.--Lat  $48^{\circ}46'$ , long  $114^{\circ}52'$ , in SE $\frac{1}{4}$  sec. 30, T.35 N., R.25 W., at bridge on county road,  $1\frac{1}{4}$  miles east of Fortine.

Drainage area.--17.9 sq mi.

Records available.--July 1959 to

Gage.--Crest-stage gage installed July 1, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1959	(j)	2.8	e 150
1960	June 6, 1960	2.67	e 138
1961	May 31, 1961	2.92	161

## 12-3017 Kootenai River tributary near Rexford, Mont.

Location.--Lat  $48^{\circ}48'$ , long  $115^{\circ}18'$ , in SE $\frac{1}{4}$  sec. 11, T.35 N., R.29 W., at culvert on State Highway 37, 7 miles southwest of Rexford.

Drainage area.--1.11 sq. mi.

Records available.--July 1959 to

Gage.--Crest-stage gage installed July 1, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1959	(j)	0.5	2
1960	Apr. 8, 1960	1.25	9
1961	May 12, 1961	1.28	9

e Revised

j Peak flow occurred sometime during period May-June.

## 12-3018 Gold Creek near Rexford, Mont.

Location.--Lat  $48^{\circ}47'$ , long  $115^{\circ}19'$ , in NW $\frac{1}{4}$  sec.23, T.35 N., R.29 W., at culvert on State Highway 37, 8 miles southwest of Rexford.

Drainage area.--6.04 sq mi.

Records available.--July 1959 to

Gage.--Crest-stage gage installed July 1, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1959	(j)	1.5	103
1960	Apr. 8, 1960	.85	55
1961	May 21, 1961	.97	64

## 12-3019 Little Jackson Creek near Libby, Mont.

Location.--Lat  $48^{\circ}27'$ , long  $115^{\circ}19'$ , in center sec.16, T.31 N., R.29 W., at culvert on State Highway 37, 12 miles northeast of Libby.

Drainage area.--2.60 sq mi.

Records available.--May 1961 to

Gage.--Crest-stage gage installed May 16, 1961.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1961	d May 15, 1961	0.4	13

d Prior to installation of gage.

j Peak flow occurred sometime during period May-June.

## 12-3020.5 Peoples Creek near Libby, Mont.

Location.--Lat 45°20', long 115°19', in NW $\frac{1}{4}$  sec.28, T.30 N., R.29 W., at culvert on private road 12 miles east of Libby.

Drainage area.--2.65 sq mi.

Records available.--May 1961 to

Gage.--Crest-stage gage installed May 16, 1961.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1961	d May 15, 1961	0.3	Not determined

## 12-3021 Severn Gulch near Jennings, Mont.

Location.--Lat 48°22', long 115°24', in SE $\frac{1}{4}$  sec.14, T.30 N., R.30 W., at culvert on private road, 3 miles west of Jennings.

Drainage area.--1.16 sq mi.

Records available.--July 1959 to May 1961 (discontinued).

Gage.--Crest-stage gage installed July 2, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1960	April 1960	0.03	a 1
1961	--	--	Not determined

a About

d Prior to installation of gage.

## 12-3022 Tub Gulch near Libby, Mont.

Location.--Lat  $48^{\circ}25'$ , long  $115^{\circ}28'$ , in NE $\frac{1}{4}$ SE $\frac{1}{4}$  sec.29, T.31 N., R.30 W., at culvert on State Highway 37, 4 miles northeast of Libby.

Drainage area.--1.47 sq mi.

Records available.--July 1959 to May 1961 (discontinued).

Gage.--Crest-stage gage installed July 2, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1960	June 3, 1960	-0.18	Not determined
1961	--	--	Not determined

## 12-3024 Shaughnessy Creek near Libby, Mont.

Location.--Lat  $48^{\circ}18'$ , long  $115^{\circ}36'$ , in W $\frac{1}{2}$  sec.5, T.29 N., R.31 W., at culvert on county road, 6 $\frac{1}{2}$  southwest of Libby.

Drainage area.--1.11 sq mi.

Records available.--July 1959 to

Gage.--Crest-stage gage installed July 2, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1959	(j)	0.4	16
1960	--	--	8 <sup>g</sup> <4
1961	Mar. 30, 1961	.73	33

g Peak discharge did not reach bottom of gage.

j Peak flow occurred sometime during period May-June.

## 12-3042.5 Whitetail Creek near Yaak, Mont.

Location.--Lat  $48^{\circ}50'$ , long  $115^{\circ}49'$ , in NE $\frac{1}{4}$  sec.1, T.35 N., R.33 W.,  
500 ft upstream from mouth, 5 miles west of Yaak.

Drainage area.--2.61 sq mi.

Records available.--July 1960 to

Gage.--Crest-stage gage installed July 15, 1960.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1960	(j)	0.7	Not determined
1961	May 1, 1961	1.02	Not determined

## 12-3043 Cyclone Creek near Yaak, Mont.

Location.--Lat  $48^{\circ}45'$ , long  $115^{\circ}54'$ , in SE $\frac{1}{4}$  sec.32, T.35 N., R.33 W., at  
bridge a quarter of a mile upstream from mouth,  $10\frac{1}{2}$  miles southwest of  
Yaak.

Drainage area.--5.66 sq mi.

Records available.--July 1960 to

Gage.--Crest-stage gage installed July 15, 1960.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1960	(j)	2.06	220
1961	May 26, 1961	1.78	172

j Peak flow occurred sometime during period May-June.



## 12-3044 Fourth of July Creek near Yaak, Mont.

Location.--Lat  $48^{\circ}42'$ , long  $115^{\circ}52'$ , in NW $\frac{1}{4}$  sec.22, T.34 N., R.33 W., at bridge 500 ft upstream from mouth, 12 miles southwest of Yaak.

Drainage area.--7.70 sq mi.

Records available.--July 1960 to

Gage.--Crest-stage gage installed July 14, 1960.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1960	(j)	2.5	258
1961	May 26, 1961	2.06	196

## 12-3233 Smith Gulch near Silverbow, Mont.

Location.--Lat  $45^{\circ}57'$ , long  $112^{\circ}40'$ , in N $\frac{1}{2}$  sec.1, T.2 N., R.9 W., at culvert on Interstate Highway 15 and U.S. Highway 91, 4 miles south of Silverbow.

Drainage area.--4.85 sq mi.

Records available.--May 1959 to

Gage.--Crest-stage gage installed May 11, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1959	--	--	a 5
1960	Mar. 21, 1960	1.97	43
1961	Sept. 11, 1961	2.41	67

a About.

j Peak flow occurred sometime during period May-June.

## 12-3247 Clark Fork tributary near Drummond, Mont.

Location.--Lat  $46^{\circ}37'$ , long  $113^{\circ}02'$ , in SW $\frac{1}{4}$  sec.18, T.10 N., R.11 W.,  
half a mile upstream from Interstate Highway 90 and U.S. Highway 10,  
 $6\frac{1}{2}$  miles east of Drummond.

Drainage area.--4.61 sq mi.

Records available.--June 1959 to

Gage.--Crest-stage gage installed June 17, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1958	d June 9, 1958	1.64	133
1959	--	--	(c)
1960	Mar. 18, 1960	1.62	84
1961	April 3, 1961	.70	Not determined

## 12-3248 Morris Creek near Drummond, Mont.

Location.--Lat  $46^{\circ}40'$ , long  $113^{\circ}06'$ , in NW $\frac{1}{4}$ NW $\frac{1}{4}$  sec.34, T.11, N., R.12 W.,  
at culvert on county road, 2 miles east of Drummond.

Drainage area.--12.6 sq mi.

Records available.--June 1959 to

Gage.--Crest-stage gage installed June 17, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1960	Mar. 26, 1960	1.23	Not determined
1961	April 3, 1961	.47	3

c No evidence of flow during year.

d Prior to installation of gage.

## 12-3317 Edwards Gulch at Drummond, Mont.

Location.--Lat  $46^{\circ}40'$ , long  $113^{\circ}09'$ , in  $SW\frac{1}{4}SW\frac{1}{4}$  sec.29, T.11 N., R.12 W., at culvert on private road, 0.4 miles north of Interstate Highway 90 and U. S. Highway 10 at Drummond.

Drainage area.--4.69 sq mi.

Records available.--June 1959 to

Gage.--Crest-stage gage installed June 17, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1960	Mar. 21, 1960	b 1.14	Not determined
1961	Apr. 3, 1961	.14	Not determined

## 12-3399 West Twin Creek near Bonner, Mont.

Location.--Lat  $46^{\circ}55'$ , long  $113^{\circ}43'$ , in  $NW\frac{1}{4}$  sec.2, T.13 N., R.17 W., at bridge on State Highway 20, 8 miles east of Bonner.

Drainage area.-- 7.47 sq mi.

Records available.--June 1959 to

Gage.--Crest-stage gage installed June 17, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1959	June 1959	0.7	98
1960	Apr. 6, 1960	.63	82
1961	May 27, 1961	.91	128

b Backwater from ice.

## 12-3402 Marshall Creek near Missoula, Mont.

Location.--Lat  $46^{\circ}53'$ , long  $113^{\circ}55'$ , in NW $\frac{1}{4}$  sec.18, T.13 N., R.18 W., at culvert on Interstate Highway 90 and U.S. Highway 10, 3 miles east of Missoula.

Drainage area.--5.47 sq mi.

Records available.--June 1959 to

Gage.--Crest-stage gage installed June 19, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1959	June 1959	0.3	13
1960	Apr. 7, 1960	.26	11
1961	May 27, 1961	.27	12

## 12-3443 Burke Gulch near Darby, Mont.

Location.--Lat  $46^{\circ}02'$ , long  $114^{\circ}09'$ , in S $\frac{1}{2}$  sec.12, T.3 N., R.21 W., 1 mile upstream from mouth,  $1\frac{1}{2}$  miles east of Darby.

Drainage area.--6.28 sq mi.

Records available.--April 1958 to

Gage.--Staff gage installed Apr. 16, 1958. Crest-stage gage installed July 21, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1958	May 12, 1958	0.94	11
1959	May 16, 1959	--	a 5
1960	Apr. 7, 1960	.85	8
1961	May 27, 1961	.40	2

a About.

## 12-3458 Camas Creek near Hamilton, Mont.

Location.--Lat  $46^{\circ}09'$ , long  $114^{\circ}13'$ , in SW $\frac{1}{4}$  sec.34, T.5 N., R.21 W.,  
8 miles southwest of Hamilton.

Drainage area.--6.01 sq mi.

Records available.--April 1958 to

Gage.--Staff gage installed Apr. 17, 1958. Crest-stage gage installed  
July 21, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1958	May 20, 1958	2.52	240
1959	June 7, 1959	2.30	190
1960	June 4, 1960	2.65	265
1961	May 28, 1961	2.30	190

## 12-3502 Gash Creek near Victor, Mont.

Location.--Lat  $46^{\circ}24'$ , long  $114^{\circ}16'$ , in W $\frac{1}{2}$  sec.32, T.8 N., R.21 W., 5  
miles west of Victor.

Drainage area.--3.37 sq mi.

Records available.--July 1958 to

Gage.--Staff gage installed July 8, 1958. Crest-stage gage installed  
July 20, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1958	May 21, 1958	--	a 200
1959	June 5, 1959	1.58	160
1960	June 4, 1960	.75	80
1961	May 28, 1961	1.57	99

## 12-3522 Hayes Creek near Missoula, Mont.

Location.--Lat  $46^{\circ}49'$ , long  $114^{\circ}06'$ , in center sec.10, T.12 N., R.20 W., at culvert on U.S. Highway 93, 2 miles southwest of Missoula.

Drainage area.--4.16 sq mi.

Records available.--June 1959 to

Gage.--Crest-stage gage installed June 19, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1959	(J)	0.6	3
1960	Apr. 5, 1960	3.77	56
1961	May 27, 1961	.70	4

## 12-3534 Nigger Gulch near Alberton, Mont.

Location.--Lat  $47^{\circ}01'$ , long  $114^{\circ}32'$ , in NW $\frac{1}{4}$  sec.33, T.15 N., R.23 W., at culvert on county road, 2.6 miles west of Alberton.

Drainage area.--8.02 sq mi.

Records available.--June 1959 to

Gage.--Crest-stage gage installed June 19, 1959.

Annual maximum data.--

<u>Water-year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1959	(j)	0.7	23
1960	Apr. 6, 1960	.80	27
1961	May 2, 1961	.74	24

j Peak flow occurred sometime during period May-June.



## 12-3537 Flat Creek near Superior, Mont.

Location.--Lat  $47^{\circ}13'$ , long  $114^{\circ}53'$ , in NW $\frac{1}{4}$  sec.23, T.17 N., R.26 W., at culvert on county road, 2 miles north of Superior.

Drainage area.--13.0 sq mi.

Records available.--July 1959 to May 1961 (discontinued).

Gage.--Crest-stage gage installed July 3, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1960	Apr. 6, 1960	0.31	Not determined
1961	--	--	Not determined

## 12-3538 Thompson Creek near Superior, Mont.

Location.--Lat  $47^{\circ}12'$ , long  $114^{\circ}55'$ , in SW $\frac{1}{4}$  sec.28, T.17 N., R.26 W.,  $1\frac{1}{2}$  miles west of Superior.

Drainage area.--12.2 sq mi.

Records available.--May 1961 to

Gage.--Crest-stage gage installed May 15, 1961.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1961	May 26, 1961	0.53	a 55

## 12-3538.5 East Fork Timber Creek near Haugan, Mont.

Location--Lat 47°25', long 115°25', in NE $\frac{1}{4}$  sec.16, T.19 N., R.30 W., at culvert on county road 2 miles north of Haugan.

Drainage area--2.72 sq mi.

Records available--May 1961 to

Gage--Crest-stage gage installed May 15, 1961.

Annual maximum data--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1961	May 2, 1961	0.38	23

## 12-3539 St. Regis River tributary near St. Regis, Mont.

Location--Lat 47°19', long 115°13', in NW $\frac{1}{4}$  sec.19, T.18 N., R.28 W., at culvert on Interstate Highway 90 and U.S. Highway 10, 6 miles west of St. Regis.

Drainage area--1.16 sq mi.

Records available--July 1959 to May 1961 (discontinued).

Gage--Crest-stage gage installed July 3, 1959.

Annual maximum data--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1959	(j)	0.5	Not determined
1960	May 9, 1960	.28	Not determined
1961	--	--	Not determined

j Peak flow occurred sometime during period May-June.

12--3541 North Fork Little Joe Creek near St. Regis, Mont.

Location.--Lat  $47^{\circ}16'$ , long  $115^{\circ}09'$ , in SW $\frac{1}{4}$ SE $\frac{1}{4}$  sec.34, T.18 N., R.28 E.,  
at bridge on county road, 3 miles southwest of St. Regis.

Drainage area.--14.7 sq mi.

Records available.--July 1959 to

Gage.--Crest-stage gage installed July 3, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1960	May 12, 1960	1.84	179
1961	May 26, 1961	1.88	185

12-3560 Skyland Creek near Essex, Mont.

Location.--Lat  $48^{\circ}17'30''$ , long  $113^{\circ}23'10''$ , in SE $\frac{1}{4}$ NW $\frac{1}{4}$  sec.9, T.29 N., R.  
14 W., 10 miles northeast of Essex.

Drainage area.--8.09 sq mi.

Records available.--January 1946 to September 1952 (continuous record),  
June 1959 to

Gage.--Water-stage recorder re-installed June 30, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1946	May 28, 1946	1.72	117
1947	May 9, 1947	1.84	189
1948	May 22, 1948	2.15	284
1949	May 16, 1949	1.68	126
1950	June 12, 1950	2.46	268
1951	June 15, 1951	2.05	179
1952	May 15, 1952	1.87	148
1954	May 19, 1954	2.3	230
1959	June 5, 1959	2.1	189
1960	June 3, 1960	2.00	169
1961	May 30, 1961	2.48	267

## 12-3573 Moccasin Creek near West Glacier, Mont.

Location.--Lat  $48^{\circ}29'$ , long  $113^{\circ}51'$ , in SE $\frac{1}{4}$  sec.35, T.32 N., R.18 W., at culvert on U.S. Highway 2,  $6\frac{1}{2}$  miles east of West Glacier.

Drainage area.--1.97 sq mi.

Records available.--June 1959 to

Gage.--Crest-stage gage installed June 30, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1959	(j)	1.3	Not determined
1960	June 3, 1960	1.29	Not determined
1961	May 27, 1961	1.43	Not determined

## 12-3574 Middle Fork Flathead River tributary at West Glacier, Mont.

Location.--Lat  $48^{\circ}30'$ , long  $113^{\circ}58'$ , in NE $\frac{1}{4}$  sec.36, T.32 N., R.19 W., at culvert on U.S. Highway 2, 0.9 miles east of West Glacier.

Drainage area.--0.10 sq mi.

Records available.--June 1959 to

Gage.--Crest-stage gage installed June 30, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1960	Apr. 3, 1960	0.27	3
1961	May 2, 1961	.19	2

j Peak flow occurred sometime during period May-June.

## 12-3638 Spring Creek near Stryker, Mont.

Location.--Lat  $48^{\circ}38'$ , long  $114^{\circ}41'$ , in  $N\frac{1}{2}$  sec.15, T.33 N., R.24 W., at culvert on U.S. Highway 93, 5 miles southeast of Stryker.

Drainage area.--3.86 sq mi.

Records available.--July 1959 to May 1961 (discontinued).

Gage.--Crest-stage gage installed July 1, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1959	(j)	0.7	12
1960	June 3, 1960	- .08	8
1961	May 15, 1961	.62	10

## 12-3639 Rock Creek near Olney, Mont.

Location.--Lat  $48^{\circ}37'$ , long  $114^{\circ}39'$ , in  $NW\frac{1}{4}$  sec.24, T.33 N., R.24 W., at culvert on U.S. Highway 93, 6 miles northwest of Olney.

Drainage area.--6.18 sq mi.

Records available.--May 1961 to

Gage.--Crest-stage gage installed May 16, 1961.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1961	d May 15, 1961	a 1.2	Not determined

a About

d Prior to installation of gage.

j Peak flow occurred sometime during period May-June.

## 12-3703 Teepee Creek near Polson, Mont.

Location--Lat 47°49', long 114°01', in SW $\frac{1}{4}$  sec.22, T.24 N., R.19 W., at culvert on State Highway 35, 11 miles northeast of Polson.

Drainage area--2.55 sq mi.

Records available--June 1959 to

Gage--Crest-stage gage installed June 29, 1959.

Annual maximum data--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1960	June 3, 1960	.48	11
1961	June 2, 1961	.90	22



12-3705 Hell Roaring (Big) Creek near Polson, Mont.

Location.--Lat  $47^{\circ}42'$ , long  $114^{\circ}03'$ , in NW $\frac{1}{4}$  sec.4, T.22 N., R.19 W., at power house,  $5\frac{1}{2}$  miles east of Polson.

Drainage area.--6.41 sq mi.

Records available.--May 1917 to September 1932 (continuous record), June 1959 to

Gage.--Crest-stage gage installed June 29, 1959. May 1917 to September 1932, water-stage recorder.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1917	June 9, 1917	--	f 104
1918	June 11-14, 1918	--	38
1919	May 27, 1919	--	69
1920	May 14, 1920	--	29.4
1921	June 7, 1921	--	23.3
1922	May 20, 1922	--	49
1923	June 22, 1923	--	29.7
1924	May 17, 1924	--	27.2
1925	May 22, 1925	--	61
1926	May 1, 1926	--	34
1927	June 11, 1927	--	61
1928	May 23, 1928	--	39.5
1929	May 25, 1929	--	33.3
1930	May 25, 1930	--	14.1
1931	Dec. 1, 1930	--	h 8.3
1932	Mar. 19, 1932	--	h 9.0
1960	June 3, 1960	0.81	Not determined
1961	June 2, 1961	.93	Not determined

f Maximum observed.

h Maximum daily.

## 12-3713 Dayton Creek near Proctor, Mont.

Location.--Lat  $47^{\circ}55'$ , long  $114^{\circ}20'$ , in NW $\frac{1}{4}$  sec.20, T.25N., R.21 W., at culvert on county road,  $2\frac{1}{2}$  miles northwest of Proctor.

Drainage area.--20.9 sq mi.

Records available.--June 1959 to

Gage.--Crest-stage gage installed June 18, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1959	(j)	1.3	37
1960	May 12, 1960	1.74	51
1961	May 27, 1961	3.00	93

## 12-3743 Mill Creek near Niarada, Mont.

Location.--Lat  $47^{\circ}50'$ , long  $114^{\circ}41'$ , in NE $\frac{1}{4}$  sec.20, T.24N., R.24 W., at bridge on county road,  $3\frac{1}{2}$  miles northwest of Niarada.

Drainage area.--28.0 sq mi.

Records available.--June 1959 to

Gage.--Crest-stage gage installed June 18, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1959	(j)	1.1	90
1960	May 13, 1960	1.00	74
1961	May 1, 1961	1.42	140

j Peak flow occurred sometime during period May-June.

## 12-3747 Sullivan Creek tributary near Niarada, Mont.

Location.--Lat  $47^{\circ}53'$ , long  $114^{\circ}34'$ , in  $N\frac{1}{2}$  sec.33, T.25 N., R.23 W., at culvert on county road, 5 miles northeast of Niarada.

Drainage area.--

Records available.--June 1959 to May 1961 (discontinued).

Gage.--Crest-stage gage installed June 18, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1960	March 1960	--	a 1
1961	--	--	Not determined

## 12-3757 South Fork Garden Creek near Hot Springs, Mont.

Location.--Lat  $47^{\circ}39'$ , long  $114^{\circ}43'$ , in  $SW\frac{1}{4}$  sec.20, T.22 N., R.24 W., at bridge on county road, 3 miles north of Hot Springs.

Drainage area.-- 3.29 sq mi.

Records available.--June 1959 to

Gage.--Crest-stage gage installed June 18, 1959.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1959	(j)	--	a 10
1960	April 1960	--	a 5
1961	May 27, 1961	.86	29

a About.

j Peak flow occurred sometime during period May-June.

## MONTANA STATE ENGINEER STATIONS

6-1263 Currant Creek near Roundup, Mont.

Location.--Lat  $46^{\circ}22'$ , long  $108^{\circ}39'$ , in SW $\frac{1}{4}$  sec.7, T.7 N., R.25 E., at bridge on U.S. Highway 12, 7 miles southwest of Roundup.

Drainage area.--220 sq mi.

Records available.--May 1958 to

Gage.--Crest-stage gage installed May 9, 1958.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1958	July 19, 1958	2.12	a 40
1959	Mar. 1, 1959	6.65	780
1960	--	--	Unknown
1961	July 21, 1961	1.86	31

6-1306 Cat Creek near Cat Creek, Mont.

Location.--Lat  $47^{\circ}03'$ , long  $108^{\circ}01'$ , in SW $\frac{1}{4}$  sec.23, T.15 N., R.29 E., at culvert on county road, 2 $\frac{1}{2}$  miles south of Cat Creek.

Drainage area.--36.5 sq mi

Records available.--April 1958 to

Gage.--Crest--stage gage installed Apr. 19, 1958.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1958	Aug. 15, 1958	2.76	92
1959	Mar. 12, 1959	4.58	170
1960	Mar. 18, 1960	5.85	379
1961	June 23, 1961	1.27	40

a About.

## MONTANA STATE ENGINEER STATIONS

6-1308 Second Creek tributary near Jordan, Mont.

Location.--Lat  $47^{\circ}12'$ , long  $106^{\circ}48'$ , in NW $\frac{1}{4}$ NW $\frac{1}{4}$  sec. 31, T.17 N., R.39 E., at culvert on Stae Highway 22, 11 miles southeast of Jordan.

Drainage area.--0.75 sq mi.

Records available.--March 1958 to

Gage.--Crest-stage gage installed Mar. 18, 1958.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1954	d Aug. 18, 1954	9.64	281
1958	--	--	(c)
1959	Mar. 17, 1959	1.22	Not determined
1960	Mar. 18, 1960	1.75	Not determined
1961	--	--	(c)

6-1308.5 Second Creek tributary No. 2 near Jordan, Mont.

Location.--Lat  $47^{\circ}12'$ , long  $106^{\circ}49'$ , in NW $\frac{1}{4}$  sec.25, T.17 N., R.38 E., at culvert on State Highway 22, 9 $\frac{1}{2}$  miles southeast of Jordan.

Drainage area.--1.90 sq mi.

Records available.--March 1958 to

Gage.--Crest-stage gage installed Mar. 18, 1958.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1958	June 1958	0.86	Not determined
1959	Mar. 17, 1959	1.7	Not determined
1960	Mar. 18, 1960	1.98	Not determined
1961	Sept. 11, 1961	-.37	a 2

a About

c No evidence of flow during year.

d Prior to installation of gage; peak discharge computed from high-water marks along highway embankment at culvert.

## MONTANA STATE ENGINEER STATIONS

6-1309 Second Creek tributary No. 3 near Jordan, Mont.

Location.--Lat  $47^{\circ}13'$ , long  $106^{\circ}50'$ , in NE $\frac{1}{4}$  sec. 23, T.17 N., R.38 E., at culvert on State Highway 22,  $8\frac{1}{2}$  miles southeast of Jordan.

Drainage area.--0.60 sq mi.

Records available.--July 1958 to

Gage.--Crest-stage gage installed July 23, 1958.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1958	--	--	(c)
1959	Mar. 3, 1959	1.77	Not determined
1960	Mar. 13, 1960	1.03	Not determined
1961	June 1, 1961	.23	a 3

6-1309.5 Little Dry Creek near Van Norman, Mont.

Location.--Lat  $47^{\circ}21'$ , long  $106^{\circ}22'$ , in SE $\frac{1}{4}$  sec. 4, T.18 N., R.42 E., at bridge on State Highway 20,  $1\frac{1}{2}$  miles southeast of Van Norman.

Drainage area.--1,224 sq mi.

Records available.--May 1958 to

Gage.--Crest-stage gage installed May 5, 1958.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1958	July 6, 1958	0.83	160
1959	Mar. 18, 1959	6.80	5,200
1960	Mar. 20, 1960	b 7.6	a 4,000
1961	Sept. 11, 1961	3.08	1,320

a About.

b Backwater from ice.

c No evidence of flow during year.



## MONTANA STATE ENGINEER STATIONS

6-1723 Unger Creek near Vandalia, Mont.

(Previously published as Lime Creek tributary near Vandalia, Mont.)

Location.--Lat 48°22', long 106°48', in SW¼ sec.9, T.30 N., R.38 E., at bridge on U.S. Highway 2, 4½ miles northeast of Vandalia.

Drainage area.--11.1 sq mi.

Records available.--April 1955 to

Gage.--Crest-stage gage installed Apr. 15, 1958.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1958	Mar. 1958	0.92	10
1959	Apr. 1, 1959	1.41	32
1960	Mar. 20, 1960	2.32	Not determined
1961	June 13, 1961	1.02	13

6-1723.5 Mooney Coulee near Tampico, Mont.

Location.--Lat 48°17', long 106°42', in NW¼ sec.7, T.29 N., R.39 E., at bridge on U.S. Highway 2, 5½ miles east of Tampico.

Drainage area.--12.8 sq mi.

Records available.--August 1960 to

Gage.--Crest-stage gage installed Aug. 24, 1960.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1960	--	--	Unknown
1961	June 13, 1961	2.37	Not determined

## MONTANA STATE ENGINEER STATIONS

6-2950.5 Little Porcupine Creek near Forsyth, Mont.

Location.--Lat  $46^{\circ}18'$ , long  $106^{\circ}34'$ , in NE $\frac{1}{4}$  sec.3, T.6 N., R.41 E., at bridge on county road, 6 miles northeast of Forsyth.

Drainage area.--614 sq mi.

Records available.--May 1958 to

Gage.--Crest-stage gage installed May 9, 1958.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1958	June 3, 1958	4.9	1,480
1959	Mar. 20, 1959	7.08	2,650
1960	Mar. 20, 1960	7.17	2,700
1961	Sept. 20, 1961	8.14	3,320

6-3069 Spring Creek near Decker, Mont.

Location.--Lat  $45^{\circ}05'$ , long  $106^{\circ}50'$ , in NW $\frac{1}{4}$  sec.33, T.8 S., R.40 E., at bridge on county road, 5 miles north of Decker.

Drainage area.--36.3 sq mi.

Records available.--May 1958 to

Gage.--Crest--stage gage installed May 9, 1958.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1958	June 7, 1958	3.4	184
1959	Mar. 17, 1959	1.19	45
1960	Mar. 19, 1960	1.31	49
1961	--	--	(c)

c No evidence of flow during year.

## MONTANA STATE ENGINEER STATIONS

## 6-3287 Linden Creek at Intake, Mont.

Location.--Lat  $47^{\circ}18'$ , long  $104^{\circ}31'$ , in NE $\frac{1}{4}$  sec.25, T.18 N., R.56 E., at bridge on State Highway 16, three-quarters of a mile northeast of Intake.

Drainage area.--5.01 sq mi.

Records available.--March 1958 to

Gage.--Crest-stage gage installed Mar. 11, 1958.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1958	July 3, 1958	0.98	Not determined
1959	Sept. 21, 1959	1.54	Not determined
1960	June 21, 1960	1.35	Not determined
1961	--	--	(c)

## 6-3288 Indian Creek at Intake, Mont.

Location.--Lat  $47^{\circ}17'$ , long  $104^{\circ}32'$ , in SW $\frac{1}{4}$  sec.25, T.18 N., R.56 E., at culvert on State Highway 16, 500 ft northeast of Intake.

Drainage area.--0.45 sq mi.

Records available.--March 1958 to

Gage.--Crest-stage gage installed Mar. 11, 1958.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1958	July 3, 1958	3.23	Not determined
1959	Sept. 21, 1959	3.28	Not determined
1960	Mar. 20, 1960	.60	Not determined
1961	Mar. 13, 1961	1.04	Not determined

c No evidence of flow during year.

## MONTANA STATE ENGINEER STATIONS

## 6-3289 War Dance Creek near Intake, Mont.

Location.--Lat  $47^{\circ}20'$ , long  $104^{\circ}29'$ , in SW $\frac{1}{4}$  sec. 3, T.18 N., R.57 E., at culvert on State Highway 16,  $3\frac{1}{2}$  miles northeast of Intake.

Drainage area.--4.31 sq mi.

Records available.--March 1958 to

Gage.--Crest-stage gage installed Mar. 11, 1958.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1958	--	--	(c)
1959	Mar. 17, 1959	1.96	Not determined
1960	Mar. 20, 1960	1.83	Not determined
1961	--	--	(c)

## 6-3342 Willow Creek near Alzada, Mont.

Location.--Lat  $45^{\circ}06'$ , long  $104^{\circ}35'$ , in center of sec. 27, T.8 S., R. 58 E., near bridge on U. S. Highway 212, 11 miles northwest of Alzada.

Drainage area.--123 sq mi.

Records available.--May 1958 to

Gage.--Crest-stage gage installed May 8, 1958.

Annual maximum data.--

<u>Water year</u>	<u>Date</u>	<u>Gage height (ft)</u>	<u>Discharge (cfs)</u>
1958	June 5, 1958	7.54	455
1959	Mar. 19, 1959	7.31	548
1960	Mar. 23, 1960	11.19	a 1,350
1961	Sept. 18, 1961	1.77	40

a About.

c No evidence of flow during year.





## MONTANA

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

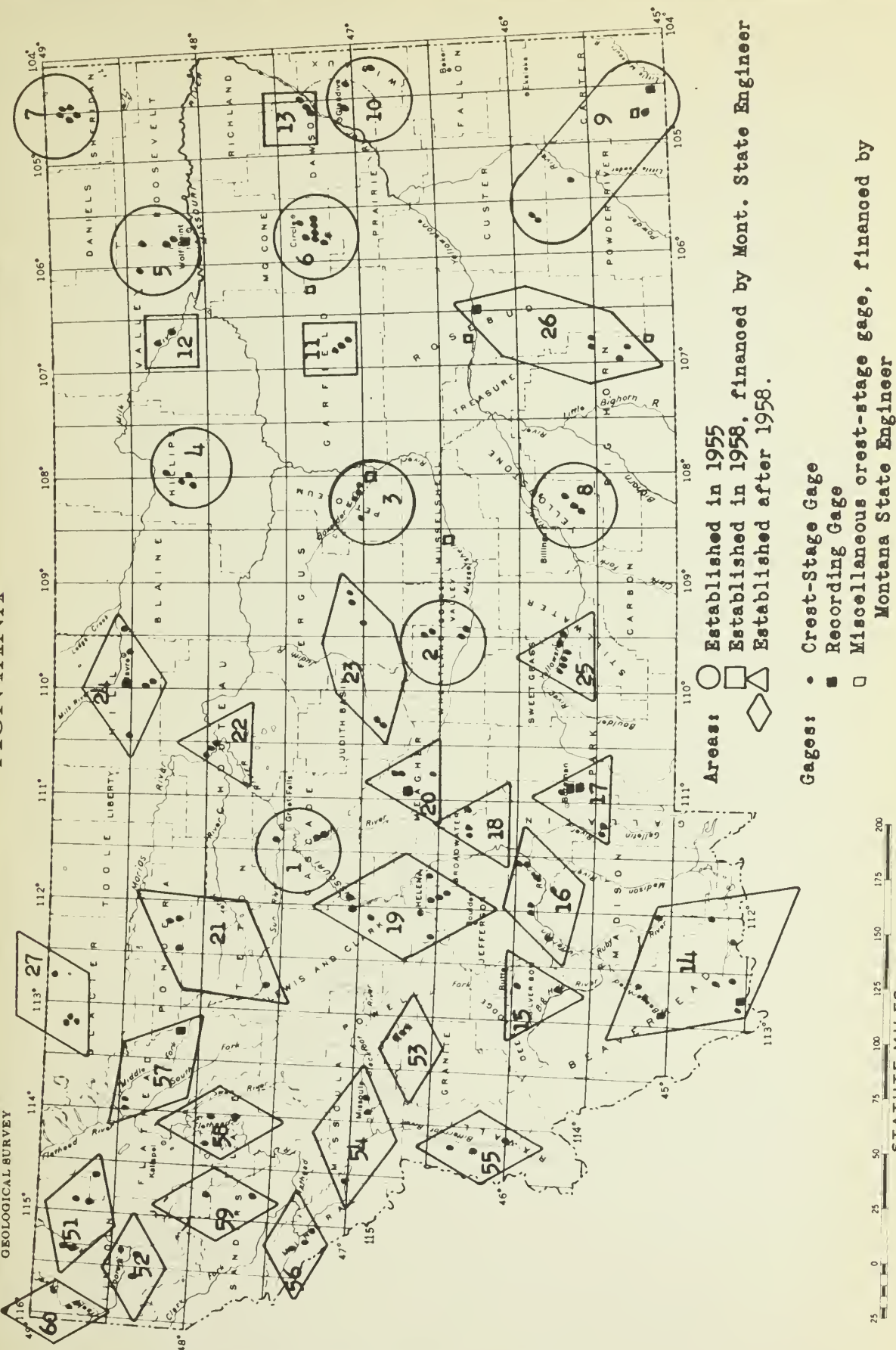


Figure 1 - Map showing location of Crest-Stage Gages and Areas







